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THESIS

Marketing Control Through Statistics

by

Paul Christian Thompson
(B. B. A. Boston University 1931)

submitted in partial fulfillment of
the requirements for the degree of

Master of Business Administration

1936

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ACKNOWLEDGEMENTS

Special acknowledgements and grateful appreciation are due the following for their kind cooperation they have given in the preparation of the material in this report.

To the members of the Strathmore Paper Co., not only for the help in the preparation of the original reports covering the many phases of this problem, but also for the help in the preparation of the present condensed report taken from the other individual reports.

To the Association of National Advertisers, for their wealth of material--books, magazine articles, and reports--which they contributed for reference purposes.

To the members of the Prelle Advertising Service, for their criticism and help in the preparation of the final report.

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INTRODUCTION

Reason for Study.

The control of manufacturing processes has become well established, the methods having been perfected through years of use and correction. The control of marketing processes, however, is still in the formative stage. It has been only in recent years that accountants and industrial engineers have turned their attention in this direction. A great deal of work has been done, and much literature written on the subject, but much has still to be done before control methods in this field reach the high degree of perfection of manufacturing control methods.

What can be done to simplify the task of the average business man or accountant who wants to improve his control methods in the marketing division?

Aims of Study.

It is the purpose of this report to study the progress in this field and to present in brief form the conclusions as they apply to a particular industry, and more specifically, to illustrate these conclusions through the methods finally adopted by one company in this industry. Industries and businesses differ, but the underlying principles are the same in all. It may be necessary to change

details to make the methods of one company suitable for another, but the main factors and problems remain the same. The information in this report is presented from the point of view of the smaller company. It is hoped that the owner or marketing executive of such companies may find in this report much information that will help him in establishing effective marketing controls in his business.

Background.

The procedure followed in this study, upon which this report is based, is probably typical of the history of marketing control methods as they are in force today.

The industry used in this report is the fine paper industry....the particular company the Strathmore Paper Company. Strathmore has long been noted for its progressiveness in the fine paper industry, leading in the adoption of new equipment and new control methods, particularly in manufacturing. It determined several years ago to see what could be done to improve its marketing methods, in the light of modern practice in this field.

Point of view.

This report presents the conclusions reached by Strathmore, and the methods adopted. The report is a condensation of the many reports written on the various phases of this study. These individual reports covered a

period of several years, suggesting the scope of such a study. In the condensing of this material for the present report, it has been necessary in some cases to use statistical information and in these cases the figures have been changed to avoid revealing confidential information.

Definition of Marketing Limits.

Most industrial engineers are agreed upon the division of the functions of the usual manufacturing firm into three parts:

Manufacturing
Marketing
Financial

The financial part is a minor, although important function, which serves each of the two major divisions. There is some slight difference of opinion as to where the two major divisions separate. The more common definition gives to manufacturing all the functions up through the delivering of the product to the shipping room or warehouse. The storage of the finished product until it is wanted, and the packing and shipping of the product are the functions of the marketing division. In this report the term "marketing" is understood to cover this range of functions.

Sequence Followed in Report.

This report first considers the general aspects of the problem of marketing control. It then describes the organization of the Strathmore Paper Company, in order to orient the reader to the conditions peculiar to this company. Finally it discusses the several phases of marketing control, not as they were originally surveyed, but rather in the form in which they can be followed most easily by the reader.

THE PROBLEM OF MARKETING CONTROL

Mr. Kettering, renowned vice-president of General Motors Corporation in charge of their research, once said that the functions of any manufacturing company could be divided very simply into three major parts:

1. Making what the public wants to buy.
2. Placing it where they can get it.
3. Telling them about it.

This definition is so simple and yet so fundamental that it is used here and is followed in discussing the problem of marketing control.

Making what the public wants to buy (Merchandise Control).

Deciding what products should be made was formerly a function of the manufacturing division. Today, instead of the manufacturing division making a product and then passing it to the marketing division to sell, the more logical method is followed. The marketing division, in conjunction with manufacturing division, decides what product should meet the market's demand. No longer can a company follow its own dictates and hope to foist its ideas upon the public. It must know, first of all, what the public is buying today. Then it must know what that public may buy tomorrow.

This second phase is always somewhat of a gamble, but it is not entirely a shot in the dark. The company can be guided by the trends in the public's demand, not only in the immediate present but over a period of years. "History," as someone has said, "repeats itself". A study of history is valuable for the facts it may give as to probable trends in the future. Manufacturers of style products are particularly conscious of this fact. .In studying the problem of what to make, the manufacturer must consider the price and style limitations of the products, as well as their physical limitations such as size, weight and perishability. He must consider the physical characteristics of the present plan and equipment. Finally, he must know the physical characteristics of his market.

Placing the Product where the Public can get it. (DISTRIBUTION.)

In order to know the physical characteristics of his market, he must study it's size, type and location. He must know the different types of outlets, their size, financial and other characteristics. He must find out many facts about the consumers, including, what they buy, when and where they buy it, and similar information.

Telling the Public about the Product - (SELLING AND ADVERTISING).

After the manufacturer has chosen his marketing channels, he must decide what to do about selling and advertising his product.

He must decide how large a selling organization he needs, and how it should be divided for easy control. Then he must select the members of that selling organization and train them. How should he pay them to get the best results: salary, commission, salary and bonus, or which of the many variations of these plans? Finally, he must decide how to handle the planning of sales activities and the control of those activities.

What should he do about advertising? What buying motives of the consumers should he appeal to in his advertising? What is the best approach to use in appealing to these motives? What advertising mediums should he use, how often, and what size? Finally, he must have control methods to check the efficiency of his planning.

Sales education or sales promotion is a separate function, which, for convenience in small companies, is sometimes with either the advertising or selling departments, The exact range and functions of sales promotion are subjects of much debate. These duties vary widely, but its functions of dealer training and liaison between the advertising and sales departments are particularly important.

MARKETING STRUCTURE AND ORGANIZATION

This report deals with the subject of marketing control through statistics, as applied to a specific company....The Strathmore Paper Company. A discussion of the marketing structure and organization of this particular company will be helpful in giving the reader a clearer picture of the problems facing this company.

Marketing Structure.

The company's product is that of fine printing papers, in the upper price range. Its product is sold primarily through wholesale merchants who in turn sell to printers. Printers might be considered as either retailers or industrial consumers, in that they buy paper to be printed for their customers.

It will be seen that the marketing structure of this company follows the old line in that it goes from manufacture to wholesaler to retailer (Printer) to consumer (Advertiser). Companies making low-priced, volume papers have gone around the wholesaler, but most of the companies making the better grades of fine papers go through middlemen. This is due to the fact that many items are made. The printer buys in very small lots and usually requires almost immediate delivery. The wholesaler, therefore, is

obliged to stock a wide variety of papers.

Strathmore's product being in the upper price ranges limits its sales to the larger cities, due to the difficulty of selling sufficient volume in small cities to justify stocks. It has, therefore, comparatively few merchants, situated primarily in cities of over 100,000 population. Branch selling has been developed considerably in the wholesale marketing of fine papers, many of the merchants having a number of branches. Even independent merchants sometime operate over 100 miles from their warehouse.

The function of the company salesmen is primarily that of missionary men. A relatively small part of their time is spent in the placing of new lines and in the handling of service calls and complaints. The balance of their time is spent working with merchant salesmen in the development of better selling methods, and in the making of missionary calls on printers and advertisers.

Organization.

The Executive Vice-President of Strathmore, in addition to having general supervision of all company activities, is director of sales. As director of sales he is responsible for planning selling efforts and exercising executive control over all other functions of marketing.

Another Vice-President is director of product research and merchandising control. His background, that of

both manufacturing and selling, is particularly valuable in the supervising of all product developmental activity. He supervises research on new products, the revision of existing standards, and packaging.

The Advertising Manager is responsible for the development of all advertising efforts, deciding what is needed, the creation, production, and control of all advertising efforts.

The Sales Promotion Manager has charge of dealer education, developing material to stimulate greater activity on the part of merchant salesmen. He merchandises all company advertising to the dealer as well as to the company's own salesmen.

The Manager of Sales Research works directly under the Director of Sales, handling special research projects as required, supervising the accumulation and reporting of sales and sales expense statistics. Finally, he prepares and revises as necessary the complete forecast of sales.

MERCHANDISE CONTROL.

This report is not intended to deal with special control methods such as market surveys. It is, rather, intended to discuss control methods which can be established as routine.. It is recognized that these routine controls do not necessarily give the complete information required at all times, and that they must in some cases, at some times, be supplemented by special surveys. This question of market surveys, however, is a large onein itself and rather involved and, therefore, is not covered in this report.

The use of outside market surveys is particularly necessary in some cases for adequate merchandise control. It is often necessary to go into the market to study the consumer and his desires. What are his needs? What does he like, or dislike? What can he afford to pay for the product and what does he require in the way of service? What motives impel him to make the purchase?

It is likewise often necessary to get specific information about the wholesalers and retailers. How many lines do they carry? What is the relative popularity of each with each middleman? From how large a territory are their sales obtained? What types of customers do they serve? What are their sales policies, and what services do they demand?

Over and above such information to be obtained from special surveys, and from them alone, there is a great deal of information which may be obtained in a routine way from the company's own records. Too few companies make adequate use of their records for use in determining their merchandise policies.

The first requirement is to know the sales of the company by lines. These sales may be studied in units (pounds) or in dollars. Strathmore analyzed them in both ways, although the two methods are somewhat dissimilar and approached from different viewpoints and for different uses.

Sales Analysis - Dollars.

Sales, of course, must be compiled by customers and if such data are to be of most value the sales for each customer must be broken down by lines. Therefore, having collected sales by dollars for this purpose, it is but logical that they should be totaled to show sales for each line, in which case this information, too, would be in dollars. These sales figures are subject to the limitation of minor price fluctuations within the grade. However, these are not particularly important in the case of the Strathmore Paper Company.

These sales figures are used for many purposes. Their use by the salesmen and by the sales executives for

data about customers and their purchases will be discussed first.

Sales Analysis Record for Salesmen.

Each salesman receives a record of the sales for each customer, showing this information divided by lines. This information is given him on the form shown on the next page. This, it will be seen, contains spaces for sales for two preceding years, the total budget for the current year, the average period budget, and the actual sales by periods.

This record is sent by the salesmen to the home office just after the close of each period. It is then filled out by the office for the past period and returned to the salesmen. This record enables each salesman to have in very compact form an important record, showing what every customer is buying. There is probably no report provided the salesmen that is better received than this, and that is more valuable.

Sales Analysis Record for Sales Executives.

A report of sales is made to the sales executives on this same form. Instead of being detailed as for the salesmen, it is simply detailed by linesin one section, and by customers in another section. A summary is provided in each section, showing for the first section, a summary by groups of papers, and for the second section a summary by territories or salesmen.

STRATHMORE PAPER COMPANY

SALES ANALYSIS

CUSTOMER

SALES TERRITORY

NAME OF LINE	1933 SALES	1934 SALES	1935 BUDGET	PERIOD BUDGET	1935 SALES - BY PERIODS														
					1	2	3	4	5	6	TOTAL 6 PERIODS	7	8	9	10	11	12	13	TOTAL
TOTALS																			
BOOKS																			
COVERS																			
BONDS																			
WRITINGS																			
TOTAL																			
ADVERTISED WEDDINGS																			
NON-ADV. WEDDINGS																			
GREETING CARDS																			
TECHNICAL & MISC. PA.																			
TOTAL, ALL LINES																			
BOOK PAPERS																			
ALEXANDRA D. E.																			
ALEXANDRA JAPAN																			
ARTLAID																			
BAY PATH BOOK																			
BEAU BRILLIANT																			
BROADCASTER																			
CHARCOAL BOOK																			
COURIER																			
EMISSARY TEXT																			
GRANDEE																			
HIGHWAY BOOK																			
OLD STRATFORD D. E.																			

STRATHMORE PAPER COMPANY
SALES ANALYSIS

CUSTOMER

SALES TERRITORY

NAME OF LINE	1933 SALES	1934 SALES	1935 BUDGET	PERIOD BUDGET	1935 SALES - BY PERIODS														
					1	2	3	4	5	6	TOTAL 6 PERIODS	7	8	9	10	11	12	13	TOTAL
BOOK PAPERS - CONTINUED																			
PERMANENT BOOK																			
REEDMARK																			
SAXONET																			
SAXON JAPAN																			
SILVERFLAKE-GOLDFLAKE																			
STRATHLAID																			
STRATHMORE JAPAN																			
THISTLEBLOOM																			
WAYSIDE TEXT																			
COVERS																			
ALADDIN																			
BAY PATH																			
HIGHWAY																			
MUNSELL																			
OLD STRATFORD PARCH.																			
RHODODENDRON																			
SAXON D. E.																			

Use of Record for Forecasting Purposes.

At the close of the tenth period all sheets are totaled and each salesman receives a sheet for his territory showing not only the sales for each of the two preceding years as given on his other sheets, but also showing the probable sales for the current year, based on the extension of the 10 periods to the full year. Each salesman, as discussed in the section on forecasting, then inserts his estimate as to the probable sales for each line for each customer and returns the sheets to the mill. At the mill they are worked into the final budget as discussed in the section on forecasting.

Sales Analysis - Pounds.

The preceding paragraphs have discussed the use of sales analysis data about customers. The summary of line sales, as taken from the customer's records for the sales executives' use, is a valuable control for following the movements and trends of lines.

Lines in the case of the Strathmore Paper Company, however, are not individual manufacturing units but, rather, each line is composed of many subdivisions, in some cases as high as 130 different items. These individual items are quite expensive to manufacture, due to minimum quantities required. They must be carefully scheduled in order to keep expenses down, to say nothing of the danger of absolescence. It is, therefore, important to follow their course very closely.

TOMER

SALES TERRITORY

NAME OF LINE	1937 SALES	1938 SALES BUDGET	[illegible]	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
OK PAPERS - CONTINUED																
PERMANENT BOND																
EEDMARK																
AXONY																
[illegible]																
[illegible]																
[illegible]																
[illegible]																
[illegible]																
[illegible]																
ERN																
LADDIN																
BAY PATH																
HIGHWAY																
RUSSELL																
OLD STRATFORD PARCH.																
RHODODENDRON																
SAXON O. E.																

In addition to maintaining a perpetual inventory, a permanent record is also prepared quarterly and annually, showing the sales by items. This information is presented in pounds, inasmuch as the information is taken from the inventory records, and also because this measurement is more usable than a dollar record.

The ideal method would be to collect this information by the tabulating machine system, punching the complete sales information on tabulating cards. All the required analysis could then be computed from this one recording. In the case of companies having many transactions such a method is indispensable. It enables the company to abstract information quickly for many different classifications.

The possibility of using the punched card system was studied very carefully for Strathmore and it was found that the savings and benefits to be derived would be far outweighed by the expense. The system described herein was therefore adopted.

On the following page is shown the form used for the recording and presentation of sales information by pounds. This form provides for quarterly and annual information and is so designed that fly-leaves can be used, to avoid copying names and items frequently.

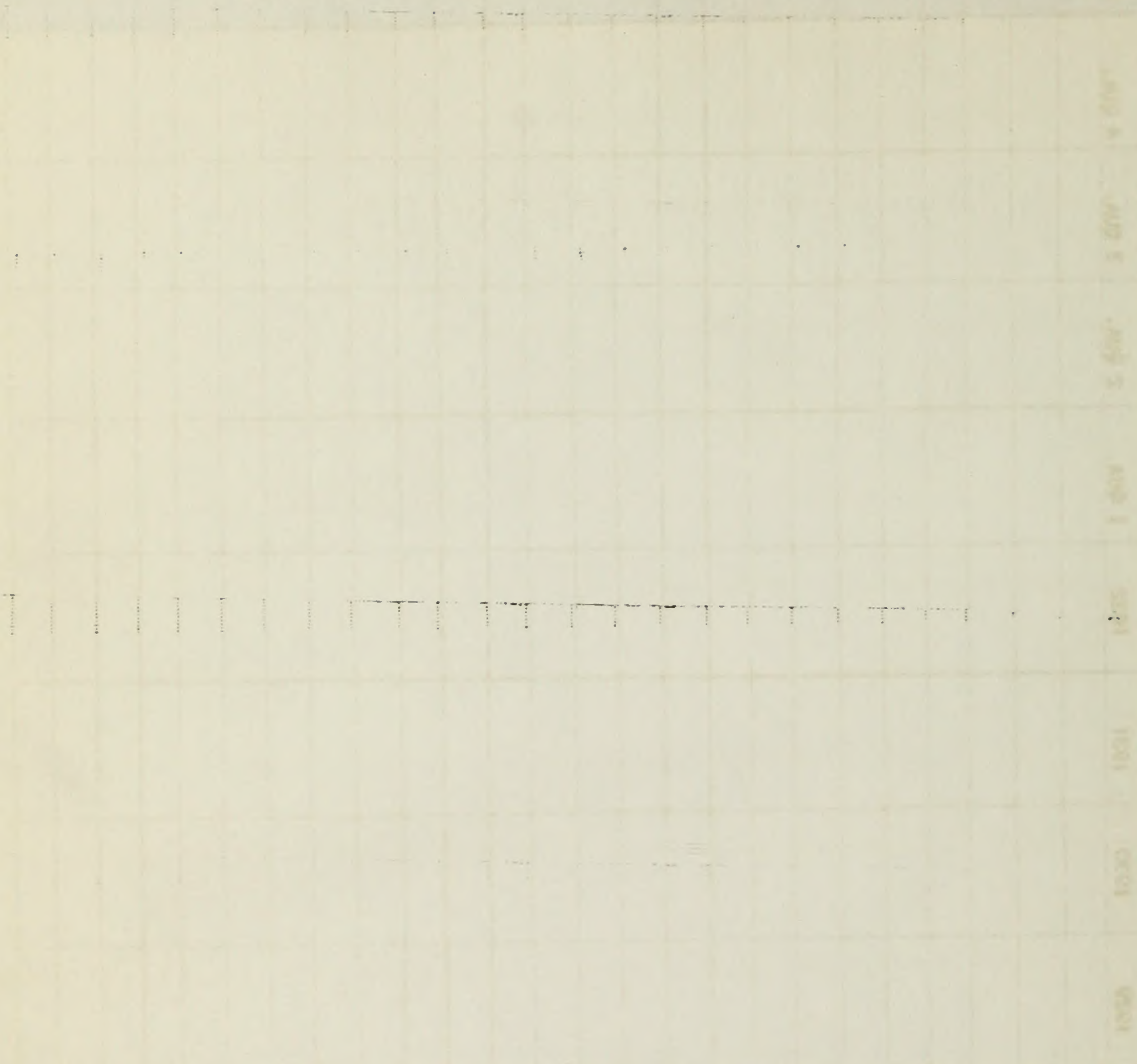
This information is very detailed and requires considerable time for analysis. The information is also sub-

LINE

MERCHANDISE ANALYSIS
POUNDS SOLD BY ITEMS

SALES	SALES 1934 PERIODS					INVENTORY 1934		SALES 1935 PERIODS					INVENTORY 1935	
1933	1-3	4-6	7-10	11-13	TOTAL YEAR	6TH PER.	13TH PER.	1-3	4-6	7-10	11-13	TOTAL YEAR	6TH PER.	13TH PER.

NAME	SALES 1928	SALES 1929	SALES 1930	SALES 1931	SALES 1932	SALES 1933				ON HAND	
						I QUA.	2 QUA.	3 QUA.	4 QUA.	IST 6 MOS	2ND 6 MOS
DATE FIRST MAKING											
COST TO CUSTOMER											
STANDARD COST											
PROFIT											
DISCONTINUED?											
AMOUNT JOBBED											



ject to so many fluctuations that some of its value for control purposes is lost. Finally, the detail used in reporting the sales information will be affected by normal variations.

To counteract this the following method is used. The sales within the line instead of being studied by individual items are studied by normal subdivisions. A line is generally divided by weights, by finishes, by sizes, and by colors. For example, a line may consist of 12 colors, 2 finishes, 2 weights, and 2 sizes, or a total of 96 items in the line, made up as follows:

	Finish A				Finish B				
	65#		2/65		65#		2/65		
Colors	20x 26	23x 33	20x 26	23x 33	20x 26	23x 33	20x 26	23x 33	Totals
1									
2									
3									
4									
Etc.									
Totals									

The information is totaled by these subdivisions. This totaling provides morelike cases and levels out fluctuations in individual items. It is now possible to determine trends in colors, in sizes, in weights, and finishes. This information can also be compared for different lines, being careful, however, to use only comparable items.

Strathmore found this method valuable in studying trends from year to year, or quarter to quarter. It was

found, for example, that, with the upturn in business, not only was the public buying higher-priced papers, but it also was buying heavier weights of papers, and the more expensive finishes. It has likewise been possible to follow the trend in public demand for the large 8 1/2x11 folders compared to the old popular size of 6 x 9. This information is not only valuable in planning manufacturing operations but is also very valuable advising merchants as to stocking requirements.

MARKET EVALUATION

Every marketing executive must answer a number of questions about his markets before he can determine the selling effort needed in his sales and advertising departments. Where is his product bought? How much is bought in each city? Is it bought in the cities where it is used? When is it bought? How much advertising should be sent into each city or territory? How often should a salesman visit each city? How long should be stay there?

The answers to these and other questions may be only vaguely expressed, taken from his own experience, from that of the Advertising Department, or from the experience of his salesmen. The answers, however, determine the actions of the different marketing functions.

Modern marketing practice has available many indexes that measure different phases of what the market consumes. Many agencies collect and disseminate such information. The bibliography at the end of this report lists many sources of market data. Much of the data is of little value to a particular business, and investigation is needed to segregate those data which may indicate the sale of one's product. A study of these and their relation to the company sales will eliminate another group, and will leave the few that are of greatest value in meas-

uring each market. In the investigating and solving of this problem of market determination for Strathmore, as well as in the investigation of the other phases of the problem of marketing control, a systematic approach was used. All available literature was covered, - books, magazine articles and reports. Strathmore is a member in the Association of National Advertisers and has access to its large and comprehensive library of marketing literature, a service which was valuable in this work. After studying the available literature, interviews were secured, as necessary, with executives and others within and without the company. The information gathered from all these sources was then analyzed and the solution finally reached.

This report does not attempt to present the vast amount of material collected but, rather, presents the final solutions in the form in which they will be most easily followed.

Consumption Factors.

Strathmore manufactures fine printing papers, and sells most of its product in the United States. Its papers are usually printed, and, therefore, anything which measures the number of printers or volume of printing will help indicate the volume of paper used. The United States government takes a census every other year, showing the number of printers and volume, under two main classifications:

Newspaper publishers

Book and Job printers (Job printers do general printing, - folders, forms, booklets, etc.)

Newspaper publishers are obviously out of consideration, because their principal product is printed on cheap newsprint (not a Strathmore product). This leaves the Book and Job printers. Their volume would be a better index of consumption of paper than number of plants, except for one reason. Large plants tend to produce the lower grades of printing, and tend to use grades of paper below those manufactured by Strathmore. The number of printers (book and job) was, therefore, used as the first factor considered in the evaluation of consumption.

The use of the better grades of paper requires an appreciation of the higher qualities and the ability to use the higher qualities effectively. The better printers enjoy this advantage. Advertising agencies generally enjoy this ability. In fact it is an almost universal quality with this latter group. Cities which contain a large number of advertising agencies are in general the type of cities that use fine paper. The number of advertising agencies becomes another factor in the evaluation of consumption of paper.

The higher the level of income the better the appreciation of quality, with certain qualifications. A

poor family is less able to appreciate quality than one with a high income. This is not always true, but it will be admitted that there is some correlation between wealth and intelligence and, therefore, appreciation of quality. The number of income tax returns filed in a city is, therefore, valuable in determining the final index of fine paper consumption.

In order to combine these three factors measuring consumption, they must be expressed in common terms. This is done by calling the total of the United States for each group 100%. Each city then becomes a certain percentage of the total for the United States. The three factors for each city can then be totaled and averaged to give a "Consumption Factor" for the city.

Wholesale Factor.

Strathmore is primarily interested in wholesaling centers, - in those centers where the paper is sold. The smaller cities tend to buy from larger cities, even though they may be somewhat distant, due to the larger cities being able to offer better selections. If it were possible to find some one accurate index of the amount of paper sold in each city, of the grades manufactured by Strathmore, it would not be necessary to use consumption factors. The United States government took in 1930 for the first time a census of the distribution in the United

States. (This was repeated in 1933 as a Civil Works Administration project.) This census measured, among other factors, the amount of paper sold by paper merchants. It included all grades of printing papers, and, unfortunately, did not differentiate between quality products and the low grades. Alone, it cannot be used, but it is important as a factor to modify the consumption factors. After studying this in relation to other factors and company sales, it was decided to give this a weight equal to the consumption factors. The two were then totaled and averaged.

Wholesale-Consumption Factor by Fine Paper Wholesale Cities.

Since certain cities were without fine paper merchants, or had merchants whose knowledge and sale of fine paper was so limited that coverage of the market was better handled from an outside city, it was necessary to combine certain groups of cities into other cities in considering fine paper wholesale cities. For example: Lawrence, Lowell, Lynn, New Bedford and Fall River "average of Consumption Factors for Wholesale Paper Sales" were combined with the same figures for Boston, into a Boston factor for "Consumption Factors by Fine Paper Wholesale Cities".

Distance Factor.

In spite of the importance of prestige, quality, and advertising, it must be admitted that certain areas far distant from the mill offer competitive disadvantages

due to quality fine paper mills being located in their district. Buyers are more and more demanding quick deliveries and often will not wait for shipments to be received from the mill in those cases where the items may not be available from the local merchants' stocks. This situation in Strathmore's case applies particularly to the Central and Western areas. After studying competitive conditions in these areas certain percentages, varying by areas, were deducted from the "Consumption Factors by Fine Paper Wholesale Cities". The total of these deductions was allocated over the cities in the immediate areas surrounding the Strathmore mills.

Theoretical Distribution Factor.

This final factor of non-Strathmore information was the result of adding or subtracting the "Distance Factor" to/from the "Consumption Factor by Fine Paper Wholesale Cities".

Strathmore Sales.

Whereas outside figures should indicate quite accurately the relative importance of the different markets, in the case of fine paper sales it must be admitted that Strathmore is probably one of the largest units in the field. Its policy of aggressive advertising, merchandising and selling has obtained an enviable reputation in its field. This past history of Strathmore sales must not be

disregarded, for it shows market acceptance over a period of years. In fact, in some ways these sales figures are probably as dependable a market factor as can be obtained. They, therefore, were used in arriving at the "Final Market Factor".

Final Market Factor.

This "Final Market Factor" was the result of averaging the "Theoretical Distribution Factor" which represented external factors, and "Strathmore Sales," which represented internal factors, in a fifty-fifty-proportion. It was this "Final Market Factor" that was used in building up the various territories and which determined the relative importance of each city.

It should be understood that these "Final Market Factors" represent only the relative importance of each city to the total of the United States. For example, a market factor of 10.0 for a city indicates that that city should furnish 10% of the sales received from the total country. It measures as accurately as possible the value of each city, by taking into account all the factors that indicate consumption. It supplies a composite index of consumption which replaces a vague and intangible appraisal of what a city is worth in marketing effort. It is subject to the limitations of an arithmetical average that it cannot measure conditions peculiar to a particular ci-

ty, over and above the general factors included. These "Final Market Factors," however, contribute a distinct value in substituting tangible measures of reasonable accuracy in place of intangible musings.

The table on the next page summarizes the material contained in the preceding pages. This table lists the factors included in the determination of the "Final Market Factor" and shows the way in which they were combined.

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FACTORS INCLUDED IN DETERMINATION
OF "FINAL MARKET FACTOR".

A - Number of Book and Job Printers.	
B - Number of Advertising Agencies.	
C - Number of Income Tax Returns Total	
D - Consumption Factor	$\frac{A + B + C}{3}$
E - Wholesale Paper Sales.	
F - Consumption - Wholesale Factor	$\frac{D + E}{3}$
G - Consumption by Wholesale Cities	F + small surrounding cities having no fine paper merchants
H - Distance Factor	+ or -
I - Theoretical Distribution Factor	$G \pm H$
J - Strathmore Sales.	
K - Final Market Factor	$\frac{I + J}{2}$

DETERMINATION OF NUMBER OF SALESMEN REQUIRED.

How many salesmen are required to cover the sales territory adequately? Is the number in the field at the present time sufficient?

It is not possible to point out any one fact that directly gives the answer. However, by pointing out several related facts that all lean in the same direction, it is possible to get the answer, although somewhat indirectly.

Objective of Salesmen.

In the selling and promotion of Strathmore papers the following market has to be considered:

Fine Paper Merchants
Fine Paper Merchants' Salesmen
Printers using fine papers
Advertising Agencies
Advertisers and Consumers

Considerable time must be spent with merchants, selling them new lines, explaining advertising and promotion plans, adjusting complaints, and advising on problems that may arise.

Work with the merchants' salesmen consists of the following:

1. Building good-will on the part of the merchant salesmen toward Strathmore.

2. Educating the salesmen concerning Strathmore papers.
3. Demonstrating the selling of Strathmore papers to prospects in front of the salesmen.
4. Trying to find new customers, and create new business for the salesmen.

The work with the last three classes of prospects (Printer, Advertising Agency, Advertiser and Consumer) is that of a missionary nature, devoted to furthering the prospects' interest in Strathmore papers.

How often should these different classes of prospects be contacted? When this is considered, allowance must be made for the fact that not all prospects can be seen when wanted, that on each visit some will be missing. Some salesmen are in the office only on Saturday mornings. Even city salesmen are in the office only in the early morning and in the late afternoon. The difficulty of covering the complete line of papers is important in considering the number of contacts necessary.

How long should each contact be? How many days can each salesman spend in the field? How many contacts can he make in an average day? How much must be done?

On the other side is the factor of expense. Expense in one sense is secondary in importance. On the other hand, it cannot be disregarded. The primary purpose of business is to make a profit, and selling expense is a

large factor in determining this. Can the expense required for an adequate coverage of the market be met by the returns to be received in the immediate future? How does this compare with expenses in the past? Is the proposed expense in line with that in similar companies?

In the case of Strathmore it was necessary to effect a compromise. After the ideal number of salesmen had been determined, and the expense of maintaining them in the field had been calculated, it was found that it was too heavy an expense for the present or immediate potential sales. There was established for the immediate present a number of salesmen lower than desired for adequate coverage of the field. It was decided to build the sales force up to the desired number as improving business conditions should allow this to be done. This situation, was, therefore, considered in the allocation of sales territories.

ALLOCATION OF CITIES INTO SALES TERRITORIES.

When the number of salesmen had been determined, the next step was that of determining the size and location of territories. A plan was wanted that would allow the adding of additional salesmen as increasing volume warranted.

In determining the division of the total market into individual territories several points had to be weighed:

1. Each city should receive an amount of time from the salesmen, commensurate with the probable sales to be received (based on its market factor).
2. Each city should bear a proportionate amount of the total expense, also based on its market factor.
3. Due consideration should be given to chain houses and other local geographical factors. The more closely the branches of any chain can be kept within one territory and under one salesman, the more effectively they can be serviced.
4. Each territory should be so laid out that travelling time away from the home city will not require too lengthy trips, and that trips can start in all territories at a given time and give complete coverage of the country in a comparatively brief and even length of time.

It was found impossible to make any division that would satisfactorily meet all these conditions and it was

necessary to find the best compromise. Territories were first laid out where the amount of time in each territory and the market factor of the territory were in balance. This original grouping took into account the obvious consideration of travel routings and connections. When the expense of travelling was figured, it was found that this original grouping did not give the proper balance of expense, and modifications had to be made in other territories. This became a problem of trial and error until the most satisfactory grouping was reached.

The first stage in the division of territories was to divide the total number of days available each year from the salesmen among the cities. This total was simply the number of days it was expected each salesman could spend in the field each year multiplied by the number of salesmen. This total was allocated among the cities according to the market factors of the cities. Then it was decided how often each city should be visited during a year, based on the expense of reaching the city compared to its market factor. Multiplying the number of days in a city by the daily salary and expense of a salesman (excluding railroad, pullman, and automobile expense) gave the yearly expense exclusive of travelling. The travelling expense of reaching the city for one visit was then determined by scheduling trips over the proper routes, and then finding necessary to find the best compromise. Territories were first laid out where the amount of time in each territory and the market factor of the territory were in balance. This original grouping took into account the obvious consideration of travel routings and connections. When the expense of travelling was figured, it was found that this original grouping did not give the proper balance of expense, and modifications had to be made in other territories. This became a problem of trial and error until the most satisfactory grouping was reached.

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Residence Cities.

There are a few cities which are outstanding in each territory and which, therefore, would require more time from the salesman than surrounding cities. The most important of these cities would normally become the residence city in each territory....headquarters from which to base operations in the territory. Each salesman would, of course, make his home in his residence city and there would be no living or travelling expenses allocated against these cities.

Stopover Cities.

Certain cities are relatively unimportant, but located directly on the route between two larger cities. Although the market factors might indicate that the sales would not warrant a salesman travelling out of his way to reach these cities, the fact that there would be no additional cost involved in reaching these cities would make a stop profitable. Consequently, for these cities there was no railroad expense charged. These cities, however, would be charged the normal expense for living and entertainment as well as for the salesman's salary.

Detour Cities.

Certain cities of minor importance are visited by

going out of the way on the way from one large city to another large city. In such cases these "Detour" cities are charged the railroad expense in excess of the normal expense of going between the two large cities. Duluth, for example, is a detour city between Milwaukee and Minneapolis, and is charged for the railroad expense of the 185 miles which is the difference between the direct route mileage of 420 miles from Milwaukee to Minneapolis, and the roundabout mileage of 605 miles through Duluth.

Side Trip Cities.

Cities that are visited as a round-trip, side trip from a large, major city have been given this classification and have been charged the railroad mileage to and from the main line. Portland, Maine, is a side trip from Boston, being charged railroad expense for 220 miles.

Major Route Cities.

This classification covered most cities and indicated major cities covered on any given trips. Each route city is given a share of the railroad expense in proportion to its market factor as compared to the market factors of other route cities on the trip, the total expense considered as the expense necessary to cover the mileage of the circle of route cities.

Number of Trips.

Having determined the railroad cost of one trip to a city, and knowing the cost of the salesman's living, entertainment, and salary expenses per day in the city, it is now possible to determine the number of trips each city should receive. In the calculation of this, it was necessary to use a certain amount of judgment. Theoretically, the more frequently a salesman could contact the city, the more effective would be his selling effort. Actually, however, he has a certain amount of work to be done on each trip and the cost of making the trip also limits the number of trips he can make. A compromise between these factors had to be made.

Finally through considerable trial and error, weighing many factors, the territories were revised and finally brought to their final stage. In doing this there were certain very definite territory limitations which had to be observed. Only border-line cities could be shifted to one territory to another. For example, Rochester might be added to a territory having as its extreme limit Albany, or might be added to another territory having as its extreme limit the city of Buffalo. Rochester very definitely could not be added to the Pacific Coast territory. The final territory grouping, therefore, was a compromise to obtain the best possible balance of the following factors:

1. Each city should receive an amount of time proportionate to its market factor.

2. Each city should bear a proportionate share of the travelling expense, in the same ratio to the total expense as its market factor was to the total of all market factors.

3. Territories should be laid out with proper regard for the location of chain houses, trying as far as possible to keep houses of a chain within the same territory.

4. Territories should be laid out so that each territory could be covered completely within a short time.

SALES FORECASTING

As in the evaluation of markets, so in the forecasting of sales every executive responsible for the direction of his business must have some estimate of the volume of sales expected during the coming year. Not only is this valuable to the sales and advertising managers, but it is also important to the manufacturing, the purchasing, and the financial heads.

In many businesses this estimate may be only a vague and intangible impression of one man, or it may be the collective estimate of a number of executives. However, in one way or another, the executives in charge of operations must have something on which to base their plans. Will they retrench or expand? Will they add more salesmen or reduce their force? Will they increase or decrease the advertising budget? If their business is to remain healthy they must plan accurately and the foundation is an accurate sales forecast.

Due to the severe and extreme changes in general business activity during the past five years, many companies undoubtedly have lost confidence in sales forecasts and sales quotas, due to the fact that general business activity has been, at least temporarily, controlling the companies' destinies a great deal more than the companies themselves had the power to do.

It is never possible to forecast business conditions or company sales with 100% accuracy, but many companies are finding that forecasts, generally, can be made within 5% of accuracy. Strathmore, after the introduction of the system of forecasting explained in this section, found that its sales forecast was within 4% of accuracy the first year and within 2% the second year. It is obvious that in a time of general catastrophe like that of 1930, the forecasts of practically every business man or economist have little chance of being fulfilled, but such years are exceptional. Even in such years, the use of a systematic method of forecasting is of far greater value than the vague estimates usually made by businesses not employing a definite system.

It is customary to think of the relationship between company sales and general business activity in terms of the future. The two are generally compared for the purpose of forecasting and the making of quotas. There is an even greater value, however, in the relationship of company sales and general business activity, both in the distant past and in the immediately preceding months. The fluctuations in general business have a great effect on activity in the individual business, varying with the particular type. It is far more important to watch the comparison of the individual company with general business today than to compare the company performance of today

with that of last week, last month, or last year. If the company sales are gradually dropping behind their normal relationship with general business, steps should be taken to correct this condition. Conditions are satisfactory if they maintain their normal relationship.

It is, therefore, important to find this relationship, not only for forecasting the future, but in order to use it as a standard of performance in judging the progress in the immediate past.

Report Periods.

Before starting the discussion of forecasting, it may be well to discuss briefly the question of report periods, inasmuch as reference will be made frequently to the term "Period". The question of the proper periods to be used for report purposes is a much-discussed question at the present time. Many reformers are advocating the use of a revised yearly calendar to remedy many of the faults in the present calendars. In the meantime, however, many business men are taking steps to improve existing conditions.

Calendar Months.

Probably the most common short-time report period in use today is the calendar month. In this case the figures are compiled for each calendar month.

This plan has a host of defects. In the first place the number of days in a month varies from a low of 28 in February to a high of 31. Further, most businesses find that volume varies according to the day of the week. In other words, Saturdays in most manufacturing companies are light days. Finally, the use of a calendar month makes necessary frequent adjustments to break down the first and last weeks' pay roll to fit the calendar month.

5-4-4 Plan.

To correct the difficulties of pay roll adjustments and the volume trend during the week, many companies have adopted the so-called 5-4-4 plan. In this plan each month starts on a Sunday and ends on a Saturday. However, there are 13 weeks in each quarter so that one month must have an extra week. A uniform plan has been established, whereby these weeks have been arbitrarily apportioned, with the first month of each quarter receiving 5 weeks, the second and third months getting 4 weeks each. In this way not only is the problem of adjusting pay rolls obviated, but quarterly comparisons can be made.

This plan has the objection of having 4 months of the year which are 25% longer than the remaining 8 months.

Four-Week Periods.

There is a growing movement among manufacturers today to adopt a 13 period year in place of the old 12-

month year. In this calendar each period is composed of 4 weeks, the period starting on a Sunday and ending on a Saturday. This takes care of the pay roll difficulty and also the difficulty mentioned previously of having an uneven number of weeks in the months.

The objection is raised that quarterly comparisons are impossible under this method. This, in one sense, is true. However, the value of quarterly comparisons is somewhat questionable. Practically every business has quite marked seasonable variations, with high peaks coming in one part of the year and low valleys in other parts. Much of the value of the period plan of control is that it affords frequent control points. It is customary to compare the present period with the same period in the previous year, and then for the longer look to compare the present year to date with the previous year to date.

If it is desired to have quarterly comparisons, the extra period can be placed in the quarter having the lowest normal volume. When the Strathmore Paper Company finally changed to the 13-period system, it was found that the seasonable variation from one quarter to another quarter varied far less under this plan than under the old plan.

The 13-period plan has been in use at Strathmore for over 2 years and has been found very satisfactory. The advantages obtained from it have far outweighed the disadvantages.

Indexes measuring Outside Business.

What should be used as an index of outside business? A multitude of indexes measuring current business activities are today being computed and published. Many of these can be discarded after the first glance. An index of air transport travel, or farm income has very little general value to a manufacturer of paper. Indexes of the paper industry, postal receipts, activity in the printing and similar industries are of far greater value. A list of those of greatest apparent value can soon be compiled. The next step is to compare these with the company sales over a period of years to find those which show the greatest correlation with company activity. (The bibliography lists many sources from which information about outside business can be obtained.)

The first conclusion reached was that a comparison of company sales in dollars was of no value when placed against the indexes that may be used from the outside. These outside indexes measure changes in volume. Company sales are the combination of volume and price. It was, therefore, necessary to use company volume rather than sales for comparison. The question of price will be compared later with outside indexes.

In order to compare company volume with outside indexes it is necessary that the company volume be reduced

to a base comparable with that of the outside index. If the two series start from different points it will be impossible to make any close or accurate comparisons. 1926 has been a year much used as a base in making outside indexes. However, government census figures, which were used in some of the foundation work, were available only in the odd years. It was found that the company sales were practically the same during 1925 and 1926, and therefore 1925 was taken as 100 for company sales. The company volume for each month was then translated into index numbers, representing a certain percentage of an average month in 1925. After translating company volume into index numbers, adjustment was made in any outside series that were not already based on 1925 as 100, raising or lowering these as necessary.

First in the series of comparisons is that with indexes of general business. In this class are included those published by:

Business Week
New York Times
Annalist
Cleveland Trust and other banks
Federal Reserve Board
Babson and other Investment Counsellors

In comparing Strathmore volume with outside indexes, two were finally selected as being most valuable, showing the greatest correlation with Strathmore's volume in the past:

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Business Week
New York Times

These were selected because they were published weekly, and were available one week after the close of the week. The two were averaged numerically to iron out the minor variations between the two.

These two indexes went back only to 1929. In order to obtain a comparison for earlier years, the Federal Reserve Board Index of Industrial Production was used from 1911 to 1929, and the Annalist added from its inauguration in 1919 until 1929.

Strathmore Seasonal Variation.

In comparing company volume with these and other indexes, it was immediately found that the company volume would fluctuate much more violently during the year than the outside indexes. This was due to adjustments having been made in the outside indexes for seasonal variation. The seasonal variation of the company was therefore removed. In normal years the seasonal variation can be determined easily. The volume is totaled for the year and the volume calculated for the average month (or period). Each month's volume is then divided by this average to get the percentage of an average month. In case a cyclical trend must be removed this can be done by observation or by the method of "least squares"*. Several years' seasonal trends were plotted on one chart and freak months removed

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*Elementary Statistical Methods - W. G. Sutcliffe - Pg. 310 McGraw-Hill Publishing Company.

by observation. The balance of the months were then averaged, month by month, to remove irregularities.

Long Time Trend.

After removing seasonal variation from the index of company volume, the next step was to look for indications of long time trend. The outside indexes, up to 1929, were already adjusted for long time trend. These trends for Strathmore could be determined by observation and were then removed. The removal was only a question of dividing each month's index by the trend adjustment. (Suppose the trend were found to be upward at the rate of 4% a year. The first year each index number would be divided by 104%, the second year 108%, and so on.)

Index of Fine Paper Industry.

The next stage was that of comparing the company with the fine paper industry.

Many industries compile and publish data showing the progress of the whole industry. These data may include production, orders, shipments, sales and other information. When such information is available the company is fortunate. However, like other outside indexes, such information must be compared carefully with the company volume or sales. It was found, in the case of Strathmore, with its rather high-priced product, that the industry volume could not be followed unreservedly.

Fortunately, some refinement was available in the total industry index. Two associations report information of particular value: Cover and Writing Manufacturers. Cover shipments are divided into two divisions, as are writing paper shipments. These four divisions were combined for the industry in the same ratio that they formed in the company shipments. Suppose it were found that in the company shipments the cover papers formed 2/8, text papers 1/8, rag content writing papers 3/8, and sulphite writing papers 2/8; the association indexes would then be combined in the same proportions. The index of the paper industry, for the purposes of this particular company would then be calculated as follows:

Cover paper shipments	- 80	(2 parts)	- 160
Text paper shipments	- 60	(1 part)	- 60
Rag Content Writing shipments	- 50	(3 parts)	- 150
Sulphite Writing shipments	- 70	(2 parts)	- 140
Total		(8 parts)	- 510
Average			63.75

This 63.75 therefore became the "Composite Index of the Fine Paper Industry", for purposes of this particular company.

Composite General Business and Association Volume Index.

Even with the refinements made in the "Index of the Fine Paper Industry" it still did not conform exactly

to the requirements of the company, due to the vast amount of low priced papers included. After some study this "Index of the Fine Paper Industry" was combined, numerically, with the "Composite General Business Index" to get the resulting "Composite General Business and Association Volume Index".

Other Outside Indexes.

Many indexes of outside volume that at first seemed promising were discarded because they failed to show sufficient relationship with Strathmore volume. The study was intended to locate those indexes of outside volume that could be depended to show reasonable relation with Strathmore volume in the future. Only in this way could "measuring sticks" be established to check Strathmore performance in the future.

Time Lag.

A final "Composite General Business and Association Volume Index" had now been established that should serve as a check for the company in the future. The next stage is to determine the relationship between the index of company volume and this Composite Index. The first step is to look for time lag.

It is sometimes found when comparing company volume with outside indexes that the company volume follows the outside indexes quite closely except for the fact that

they show a distinct lag, rising or falling one or more months after changes in the outside indexes. When such a time lag can be found, it is a fortunate condition. In such cases the company volume can be forecasted a corresponding time ahead by following the outside index at the present time.

Strathmore volume was studied with the hope that some such relationship could be found. There was no appreciable amount of time lag found, the Strathmore volume moving up or down at practically the same time as the outside indexes.

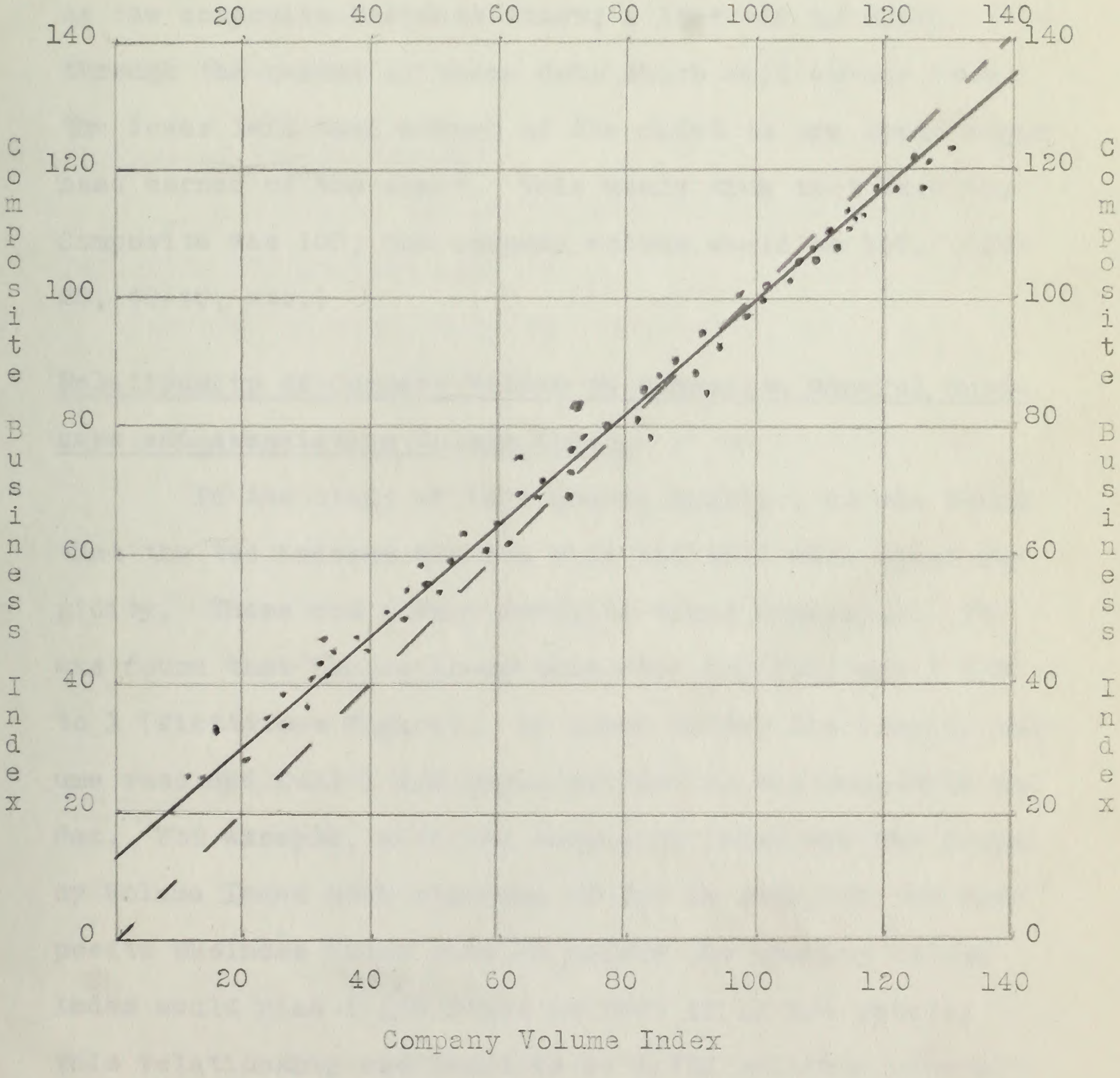
Relationship of Company Volume to Outside Indexes.

Although no time lag could be found, did Strathmore volume move up or down as fast as the outside indexes? In order to determine this, one index was plotted against the other as shown on the chart on the next page.

Explanation of Chart Showing Relationship.

The "Composite General Business and Association Volume Index" is plotted along the vertical scale while the index of company volume is plotted on the horizontal scale. A point is placed at the intersection of these two indexes for each figure to be plotted. For example, if the company volume index is 60 when the Composite Index is 80, a point is placed opposite the 80 of the Composite Index and above the 60 on the company volume index.

The Relationship of Company Volume Index
to Composite Volume Index



The dotted line indicates where the points would have appeared had Company Volume and the Composite Business Index fluctuated at the same rate: 1 to 1

The solid line indicates actual relationship of indexes: 1 1/8 to 1

The dots are plotted from the actual records.

When all these figures are plotted it is possible to determine whether any trend is apparent between two series. If the company volume moves up and down as fast as the composite business index, a line can be drawn through the center of these dots which will extend from the lower left hand corner of the chart to the upper right hand corner of the chart. This would show that when the Composite was 100, the company volume would be 100. (20-20, 40-40, etc.)

Relationship of Company Volume to Composite General Business and Association Volume Index.

In the study of this chart, however, it was found that the two indexes did not rise and fall with equal rapidity. There was a very definite trend otherwise. It was found that the ratio of this rise and fall was 1 1/8 to 1 (fictitious figure). In other words, the company volume rose and fell 1 1/8 times as fast as the Composite Index. For example, with the Composite Index and the Company Volume Index both starting at 100 in 1925, if the Composite Business Index rose 10 points the company Volume Index would rise 1 1/8 times as fast or 11 1/4 points. This relationship was found to be quite reliable over a period of 25 years except for a few unusual situations. Having found this relationship, it is possible to use the Composite Index as a "measuring stick" with which to compare Company Volume.

This situation is quite common in other industries. It is well known that food industries do not fluctuate as rapidly as general business, and it is also known that luxury industries like jewelry fluctuate more rapidly than general business.

Summary of Volume Indexes.

In studying the background for forecasting, the following things have been done:

Index of general business determined.

Index of paper industry determined.

Indexes of General Business and Paper Industry combined.

Company index computed.

Seasonal variation removed.

Long time trend removed.

Time lag studied.

Company volume index compared with Composite Index.

Price.

The study so far has considered only changes in volume. The question of price has been omitted. The next step is, therefore, a study of price and means of forecasting price. An exhaustive survey was made of the outside price indexes that might be of value. These outside price indexes were compared with the Composite Volume Index and the company price index was likewise compared with the Composite Volume Index and with the Outside Price Indexes.

The company price index was first compared with the outside price indexes, and then the outside price indexes compared with the Composite General Business and Association Volume Index. It was found that it was unnecessary to go through the medium of outside price index. Certain like relationships were found in all three series and it was finally found possible to omit the outside price index, dealing directly with the Composite Volume and company price indexes.

Time Lag and Long Time Trend.

In the comparison of these indexes there was found, first that there was a definite long time trend in the company price index, similar to those which have been occurring in other industries. Second, a time lag was found, the company price index rising and falling a definite period after changes in the Composite General Business and Association Volume Index. Both of these were adjusted as described previously for volume. The company price index was then ready to be studied for direct relationships.

Relationship between Composite Volume Index and Company Price Index.

These Composite Volume Index and the Company Price Index were plotted against each other to determine their exact relationship. This plotting covered a period of 25 years.

It was found that the Strathmore price index, after allowance had been made for the time lag and the long time trend, rose and fell about half as fast as the Composite Volume Index. (This relationship was the same as that found between the Outside Price Index and the Composite Volume Index.)

Sales.

It is now possible to get the "measuring stick" with which to compare company sales. Relationships have been determined between company volume and outside volume and, likewise, between company price and outside volume. By finding the standard company volume as determined by outside volume and then multiplying this by the standard price, the standard sales are obtained. This figure is directly comparable with company sales.

Suppose the Composite General Business and Association Volume Index is 80. The normal relationship between this and company volume has been set as 1 1/8 to 1. In other words, while the Composite Index fell 20 points from the common base of 100, the Company Volume Index should fall 22 1/2 points, making it now 77 1/2. The company price index relationship was set at 1/2 to 1. This index, therefore, should have dropped only 10 points making it now 90. Multiplying the standard company volume index by the standard company price index gives a result of 69 3/4. (.775 x .90 = .6975) This standard should be the same as

the index of company sales. (An index is a certain percentage of a fixed base. In the above example if sales for the past period were \$6,975 and the average period in 1925 (base year) were \$10,000, the index would be $\frac{\$6,975}{10,000} = .6975$)

Forecasting Sales.

The previous part of this section has selected suitable outside indexes with which company indexes could be compared, as a starting point for forecasting sales.

In the forecasting of sales it is advisable to think in the same terms that have previously been outlined: forecast pounds and price per pound separately, and then multiply in order to arrive at the sales forecast. In the forecasting it is simpler to use indexes which have been adjusted for seasonal variation, rather than to use the actual figures. In this way there are fewer variables to be kept in mind.

The various trends and relationships between different factors which have been discussed in the previous pages must be utilized. It must be remembered, however, that these trends and relationships cannot be followed exactly in forecasting. These relationships are only general trends through the years. They are important to know because they guide one's thinking in setting forecasts. If, however, it is found that some factor is actually 8 or

10 per cent away from its normal relationship to some other factor, the disgression from normal relationship must be considered in forecasting the future of that particular factor.

In the forecasting there are four factors to be considered in most cases:

1. Actual past performance.
2. Forecast of performance.
3. The line representing the level the factor would have followed if its normal relationship to some other factor had been exactly constant.
4. A forecasting line predicting the level of the factor in the event that the normal relationship should exist exactly constant to the forecast of this other factor.

Composite General Business and Association Volume Forecast.

The forecast of general business conditions is by far the most important factor. As will be remembered from the previous discussion, definite relationships were set up between inside and outside factors. Therefore, the inside factors can be studied in their relationship to general business conditions, but general business conditions in themselves can only be studied in relation to cycles, and other vague and none too reliable theories.

This work of forecasting general business conditions was done by carefully reading and analyzing as many

professional opinions as possible. These opinions were available from many periodicals, investment services and weekly letters. In addition, inquiries were addressed to certain semi-confidential sources with whom Strathmore had contacts, asking them their opinion as to the probable trend of business during the coming year.

Forecasts were made separately for general business conditions and for the fine paper industry. These two were then combined to obtain the final Composite General Business and Association Volume forecast. The forecasts of both of the component parts of the Composite General and Association Volume Index were determined by 4-week periods in keeping with the company calendar.

Company Volume Forecast.

Once the forecast had been made for outside volume, the next consideration was the Company Volume forecast. The first thing to be considered was whether the previously determined normal relationship would continue in force during the coming year. Many factors had to be considered in determining this: Would conditions without the industry continue in approximately the same relationships that they previously held? In deciding this the nature of the competition being received was considered, as well as the trends in consumers' demand and purchasing power as related to the company production. Within the company, this

relationship could be affected by such factors as price policies, production costs, whether in product or service, selling and advertising effort. In the case of Strathmore Paper Company it was decided that because of decided changes in advertising and selling effort that the company should increase faster than its normal relationship with the Composite General Business and Association Volume Index.

Once this relationship had been determined, the company volume forecast could be determined by multiplying changes in the Composite Volume Forecast by the determined relationship index for each period. This Company Volume forecast as it stood was adjusted for seasonable variation, in that it is based on outside volume indexes which normally were published with seasonable variations corrected. In order to obtain the Strathmore volume forecast as it actually should be, before the correction of seasonable variation, the adjusted forecast for each period was multiplied by the standard seasonal variation for that particular period. For example, if the company volume forecast for the second period of the year was set at 80 and the standard seasonable variation for that period indicated that it should show 112% of the normal period sales, the 80% would then be multiplied by 112%. The result of 89.6 would be the forecast of company volume as it should be for that period, without any allowance for seasonal variation.

The forecast of company volume was now in the form of index numbers. This had to be changed into pounds before it was suitable for executive use in planning production. An index number, as will be remembered, is simply a number representing a certain factor. The index of company volume, for example, is the percentage of the present period volume of the base year, in this case, 1935.

Knowing the base, the period index is simply multiplied by the base figure to get the forecast of Company Volume in pounds.

The following table summarizes the method of calculating the forecast from the first stage to the last stage:

Stages in the Making of Company Sales Forecast.

A. General Forecast of Company Sales.

General Business

New York Times)
) averaged numerically-1 part each
Business Week)

Fine Paper Industry-

composed of different sections of industry combined in some ratio as similar products within company and company total.

Fine Paper Industry Index averaged numerically with General Business-1 part each-to obtain Composite General Business and Association Volume Index.

Company Shipments-

determined by following established relationship between company shipments and composite General Business and Association Volume Index.

Company Sales-

the result of multiplying shipments by price.

B. Forecast of Individual Lines Sales

Based on past record of line plus knowledge of expected increase or decrease in total company volume.

C. Forecast of Sales to Individual Customers, Itemized by Lines

Based on past record of customers, plus salesman's knowledge of conditions peculiar to each customer, plus knowledge of expected increase or decrease in total company volume.

D. Final Company Sales Forecast

Based on A - B - C

Price Forecast X Volume = Sales.

Before the forecast of sales could be determined it was necessary to estimate what the average price per pound would be during the coming year. Once this had been set the forecast of sales could be found by multiplying the pounds by the price per pound.

During extraordinary conditions, such as the past depression, the normal relationships tend to become unusable, and it becomes necessary to fall back on other expedients. In the case of the price per pound it became necessary to obtain this through another method, which will

be described within a few paragraphs. For the moment, however, let it suffice to say that the volume forecast for each period was multiplied by the price to obtain the sales forecast.

Division of Forecast by Lines and by Customers.

A forecast is not of much value unless it can be checked after it is made. It is not particularly helpful to know that sales fail to meet the forecast if it is impossible to determine just why this is so. In order to determine more accurately why the differences occur, the forecast must be shown by lines and by cities.

As a check on the original general forecast and in order to divide the forecast as desired, two different methods were followed.

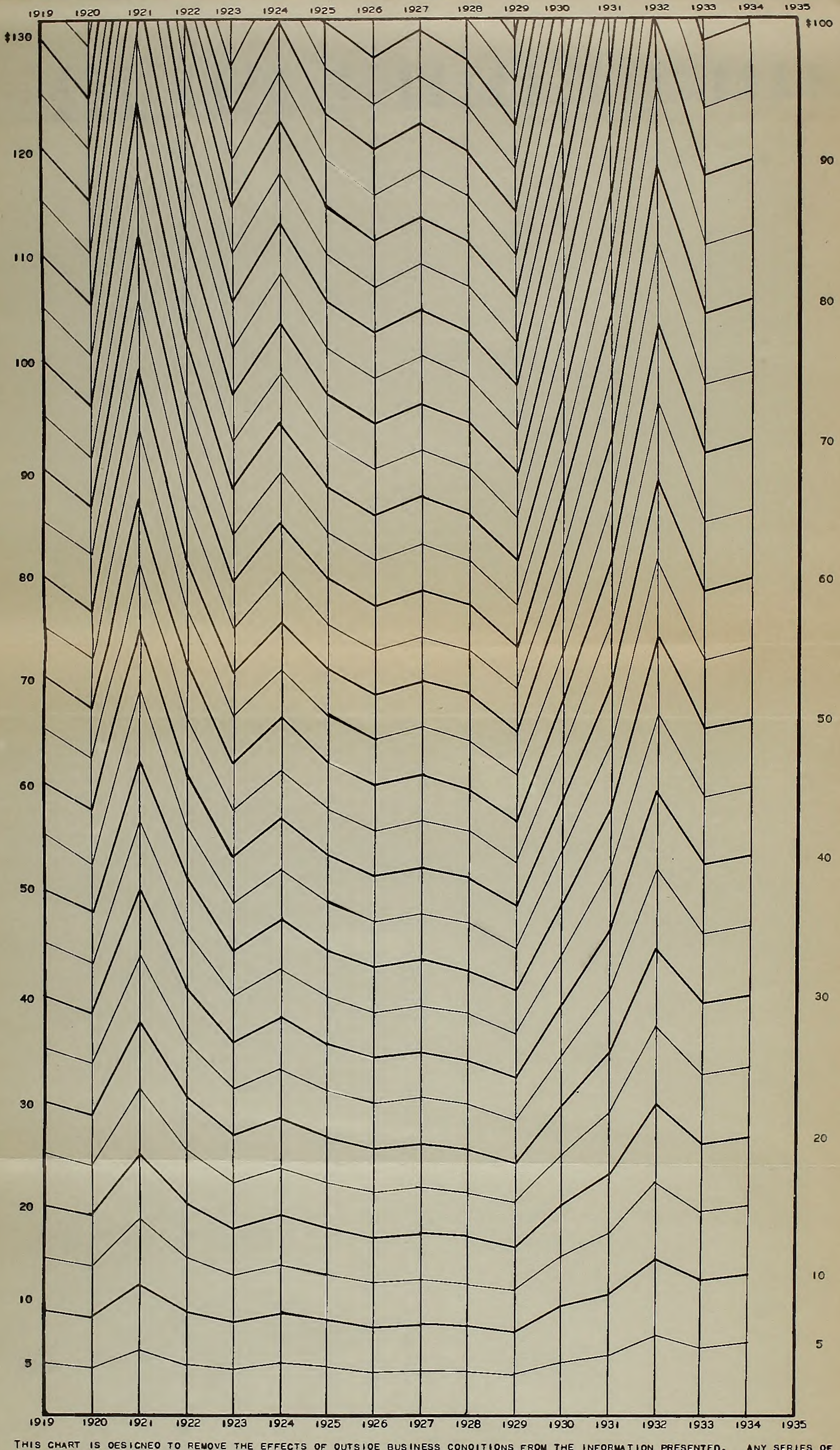
Forecast of Sales by Lines.

The Research Department makes a separate forecast of sales for individual lines. Each line is studied individually and a separate forecast set down, based on the study of the line in the past, plus the knowledge of changes expected in outside conditions during the coming year.

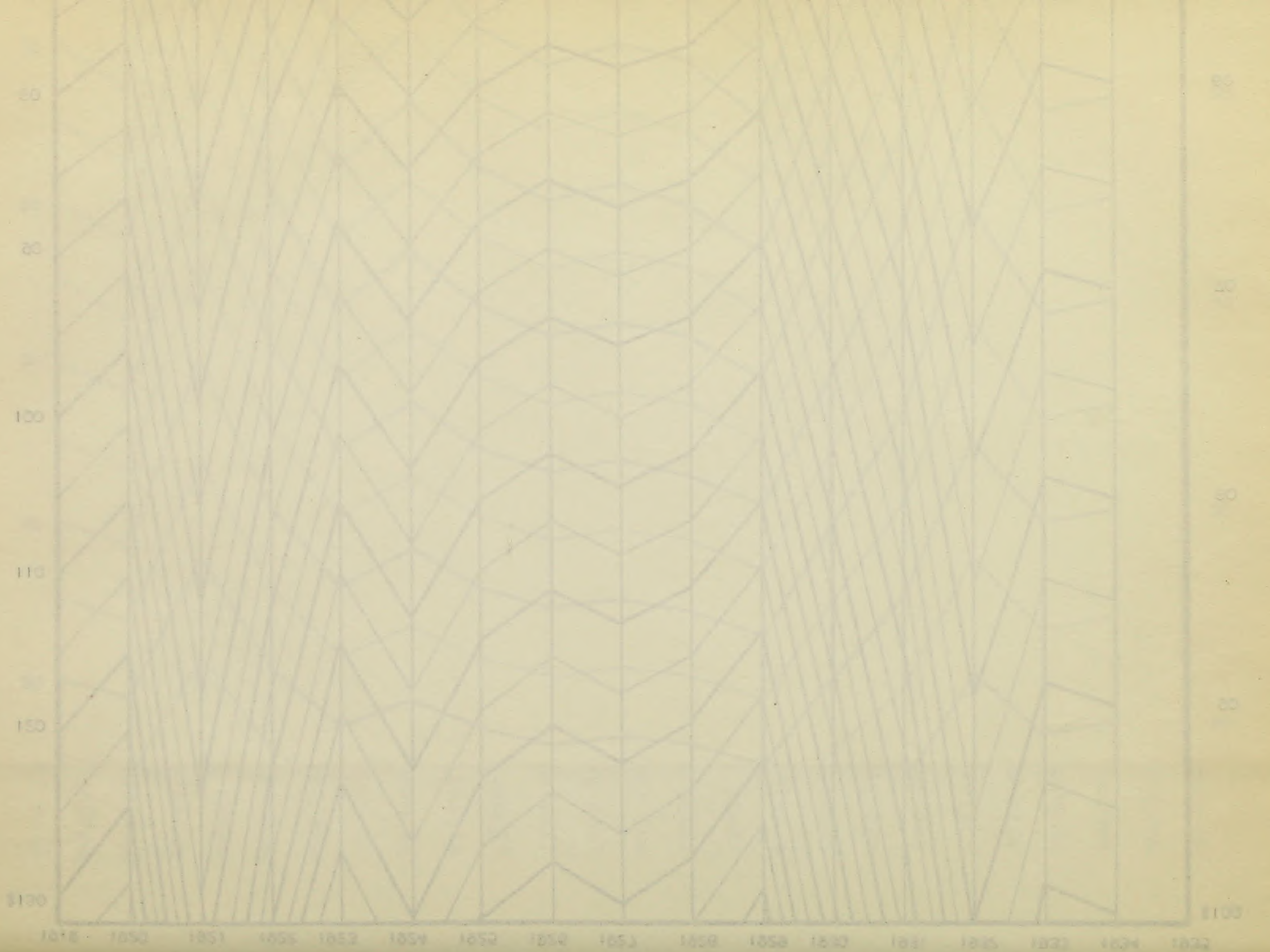
In studying sales by lines for forecasting purposes some means was desired by which company sales of the particular line might be compared easily with outside con-

ditions. It would be possible to chart the Composite General Business and Association Volume Index on a chart and compare this with sales of each line plotted on the same sheet. It was desired, however, to go even further than this and to chart the information in such a way that it would be unnecessary to compare company line sales with the outside index....in other words, to find some way of studying line sales with the effect of outside business removed. Remembering that company volume in total bears a definite relation to outside volume, it can be expected that, normally, each line should bear the same relationship to the outside index. Actually, of course, this is not true. There is a constant shifting of line importance from year to year. New lines are introduced from time to time and the demand for certain old lines gradually diminishes. It is this increase or decrease over and above the effect of outside business conditions which it is desired to measure.

After considerable research, the chart shown on the following page was developed. This chart was so designed that it automatically removed from any company line sales the effect of outside business conditions. If the sales of a particular company line followed the normal relationship to outside business conditions, the graph indicating sales would appear as a horizontal line. If the line indicating sales turned up, it would mean that the



THIS CHART IS DESIGNED TO REMOVE THE EFFECTS OF OUTSIDE BUSINESS CONDITIONS FROM THE INFORMATION PRESENTED. ANY SERIES OF FIGURES PLOTTED ON THIS CHART WILL APPEAR AS A HORIZONTAL LINE IF THE FLUCTUATIONS IN THE FIGURES FOLLOW THE FLUCTUATIONS OF THE RESEARCH DEPARTMENT COMPOSITE INDEX OF GENERAL BUSINESS & ASSOCIATION VOLUME. THE DEGREE TO WHICH A LINE DEPARTS FROM HORIZONAL SHOWS THE DEGREE TO WHICH IT IMPROVED OR DECLINED, EXCLUSIVE OF CHANGES CAUSED BY OUTSIDE BUSINESS CONDITIONS.



100
110
$130
$100

sales of that particular line had increased more than could normally be expected, based on outside business conditions. If the line turned down, the opposite would be true.

It will be seen that the chart is composed not of horizontal lines as in the normal chart, but rather of lines which go up and down from year to year. These lines show the outside Composite Volume Index in inverse form.

The chart has one limitation in that it uses arithmetical divisions rather than logarithmic divisions. This means that the slope of the lines becomes more severe as the scale increases rather than remaining constant as in logarithmic charts. This limitation is not particularly important in that the main purpose of the chart is accomplished in its present form -- that of showing sales with the effect of outside business conditions removed.

Sales for any line can be plotted on these charts by inserting correct scale numbers (for example, $1, $2, $3, -- $100, $200, $300, etc.). By plotting the yearly sales the effect of outside business is automatically removed.

After sales of each line have been studied and a forecast made, a total is found for all lines. These forecasts by lines are made in dollars, inasmuch as this is the way sales analysis figures are collected. Price is not an

important factor here, inasmuch as prices change only at very infrequent intervals. In case prices fluctuated frequently, it would be necessary to use pound figures rather than dollar figures.

It is a short task to translate the dollar sales for each line into corresponding amounts in pounds. This is done by dividing the sales for each grade by the pound price for the grade.

The individual sales are then totaled to obtain the second of the three methods used in forecasting.

Forecast of Sales by Customers.

The third step in forecasting sales is the forecasting of sales by customers. This not only divides the sales forecast by customers, but, because of the way it is made, it also serves as a third check in the preparation of the final forecast.

The sales force of the Strathmore Paper Company is composed of a small number of comparatively high-salaried men who, in a sense, serve as sales managers of their own particular territories. Because of this background, they are particularly valuable in the forecasting.

Some time before the beginning of the fiscal year, the sales analysis department totals the sales records by customers and by lines. Estimates are made showing sales for the current year, based on the sales for the first 10

periods. This information is given to the salesmen together with information showing sales for each item for the previous two years.

The salesmen are then told what the company expectations are for the coming year, based on the research department forecast of outside business conditions and the expected company relationship.

Each salesman then inserts on his special sets his estimate of the probable sales to each customer for each line. In making this estimate he considers the record of each customer for the previous three years, including the current year, the information given him by the research department, and, finally his knowledge of the conditions peculiar to the particular merchant.

Final Forecast of Sales.

These sheets are returned to the home office and totaled not only by customers but also cross-totaled by lines. There is then available a third forecast of sales in total and a second forecast of sales by lines. These three sets of estimates are studied by the research department. Necessary adjustments are made to reconcile the three: by customers, by lines, and the total. This final reconciled forecast becomes the foundation upon which all operations of the company are based. It's dependability can be seen from the fact that in its first year of opera-

tion it was within 4% of accuracy while in its second year it was within 3% of accuracy.

Price.

The problem of price has been approached from a new angle in this forecasting. The average price of a company's production is determined by the price of each line and the volume fluctuations between lines. For example, if product "A", selling at 15¢ a pound, drops from 1,000,000# to 500,000#, while product "B", selling at 10¢, reverses the process by going from 500,000# to 1,000,000#, the total volume in pounds will remain at 1,500,000#. The total sales, however, will go from $200,000 down to $175,000 and the price per pound will, therefore, drop from 13.3¢ to 11.67¢ a pound.

This emphasizes the importance of studying individual line trends as an aid in forecasting the probable average value of the total production.

Standard Sales.

The forecast of sales is an important requirement in modern marketing. As discussed previously, this forecast is based primarily upon definite relations between outside business and company volume as determined over a period of years.

The sales forecast is doubly important when used to measure company performance. Suppose the sales fore-

cast called for $500,000 for a certain period and the actual sales were also $500,000. This may be a very commendable showing or it may be a very poor showing. If the forecast of $500,000 were made on the assumption that outside business conditions would remain constant and they had actually increased 25%, the actual showing would not be very satisfactory.

The sales forecast can become a valuable measuring stick for use in judging company performance if this forecast is adjusted to meet actual conditions. If, in the example given in the previous paragraph, an adjustment is made to correct for the variations caused by the inaccurate forecast of outside business conditions, the difference between the corrected forecast and the actual sales will show how well the company has maintained its normal relationship. If outside business increased 25% over the forecast, the company sales should have increased 1 1/8 times as fast, or 28 1/3%. After making this adjustment it is seen that the company should have had sales of $646,666 ($500,000 forecast plus correction of 28 1/3%) instead of its actual $500,000. This amount of $646,666 can be considered as "Standard Sales" inasmuch as it represents what the company should have done had it maintained its expected relationship with outside business conditions.

The variation between actual company sales and standard sales for a particular period is not particularly significant, but a variation for successive periods becomes increasingly important.

Sales Forecast Comparison.

At the close of each period a report is made to the executives of the company which compares actual sales with the forecast of sales as well as with the "Standard Sales". This report analyzes the differences between actual and forecast or standard under three headings:

1. Adjustment due to variation between forecast of outside business and actual.
2. Variation due to difference between forecast and actual price per pound.
3. Variation due to volume due to pounds shipped being lower or higher than forecast.

This information is presented in running form with accompanying descriptive reading material. This is done because the comparison is given to executives so infrequently (once every 4 weeks) that they should have available each time the background information.

A copy of this report is shown on the following page. This report is issued on the second Monday following the close of each period, showing how quickly the information about outside business and the paper industry

Strathmore Paper Company Period 19

COMPARISON OF SALES FORECAST AND ACTUAL SALES
WITH ANALYSIS OF DIFFERENCE

Actual Sales vs. Forecast Sales.

Strathmore's actual sales and the sales forecast for the past period and year to date were as follows:

	Sales Forecast*	Actual Sales**	Difference	
Period (, inc.)			(sales	forecast)
Year to Date (, inc.)			(sales	forecast)

*Dated 19

**Gross Sales less Returns and Adjustments.

The forecast of Strathmore volume was based on a study of the relationship of Strathmore's volume to general business conditions and fine paper manufacturing activity over a period of 20 years. Strathmore's volume was forecast after studying the probable future course of these outside influences.

Below is shown a comparison of the forecast and actual for the outside influences affecting Strathmore's volume:

	Period			Year to Date		
	Forecast	Actual	Difference	Forecast	Actual	Difference
General Business Index (a)						
Writing & Cover Asso. Index (b)						
Comp. Business & Asso. Index (c)						

(a) Average of Business Week and New York Times Indices. (1925 = 100)

(b) Weighted average of Association shipments; (1925 - 100): Strathmore's sales are composed of 3/6 Rag Writings, 2/6 Sulphite Writings, and 1/6 Cover papers. The index of Writing and Cover Association shipments is, therefore, weighted in the same proportions to furnish an index which is comparable to Strathmore's sales.

(c) Average of (a) General Business Index, and (b) Writing and Cover Association Index. (1925 = 100)

Strathmore's price per pound was forecast based on a study of its past record and an interpretation of present conditions. The comparison follows:

	Period			Year to Date		
	Forecast	Actual	Difference	Forecast	Actual	Difference
Strathmore Price per Pound						

Sales Research Dept. Form II Page 1

Actual Sales vs. Standard Sales.

The preceding part of this report compares Strathmore's sales performance for this year with the sales forecast (Dated 19). The material that follows attempts to approximate what Strathmore sales should have been had they followed the usual relationship of Strathmore's volume to outside business and fine paper influences that existed for 20 years previous. This results in a "Standard Sales" figure which shows what Strathmore should have done during this year, based upon the actual movements of outside business and fine paper manufacturing influences as they have taken place during this year.

The table below compares the actual sales with the "Standard Sales", and attempts to point out the variations due to price and to volume.

	Period	Year to Date
Sales Forecast.		
Correction due to outside business and fine paper manufacturing having been for this year at a level other than the level anticipated at the time the sales forecast was prepared.		
Standard Sales*		
Actual Sales**		
Total variation between actual sales and standard sales		
This total variation between the actual sales and the sales that should have been reached can now be broken down as to price and volume.		
Variation due to price per pound.	( )	( )
Variation due to volume.	( )	( )

*Represents the sales that should have been attained so far this year - now that we know the actual level of general business conditions and of fine paper manufacturing activity as they have taken place this year.

**Gross Sales less Returns and Adjustments.

becomes available. The report is carefully read by the executives and its value has become well established.

WEEKLY SALES AND ORDER CONTROL.

A company is interested primarily in profit. The first indication of this is found in sales. An even earlier index, suggesting sales volume, is the report of orders.

Strathmore introduced a report combining these two, to be issued every Monday afternoon. This gave a report for the week ending the previous Saturday, showing both orders and sales.

A copy of this is shown on the following page. The lower half of this report deals with the sales, showing, first, the sales budget for the week and then sales for the past week, both for the present year and the corresponding week in the previous year. The information about sales is also expressed as a percentage of budget. The same information is repeated for the year to date. It will be noticed that the information is divided into two sections, for the two divisions of the company: West Springfield and Woronoco.

Sales are available in the more expressive terms of dollars. Orders, however, although giving a report of company progress averaging two weeks earlier than the report of sales, are, of course, not available in dollars. They are valuable, however, in that they give an early indication of what the company is doing.

WEEKLY REPORT OF ORDERS AND SALES

WEEK ENDING ______________

ORDERS

	THIS WEEK						TOTAL FOR YEAR TO DATE				
	NORMAL CAPACITY	THIS YEAR		LAST YEAR		% I OR D	THIS YEAR		LAST YEAR		% I OR D
		POUNDS	% OF NORM	POUNDS	% OF NORM		POUNDS	% OF NORM	POUNDS	% OF NORM	
TOTAL											
WEST SPRINGFIELD											
WORONOCO											

SALES

	THIS WEEK					TOTAL FOR YEAR TO DATE					
	BUDGET FOR WEEK	THIS YEAR		LAST YEAR	% I OR D	THIS YEAR			LAST YEAR		% I OR D
		SALES	% OF BUDG	SALES		BUDGET	SALES	% OF BUDG	BUDGET	SALES	
TOTAL											
WEST SPRINGFIELD											
WORONOCO											

The first half of this report, therefore, gives information about orders for the preceding week. The pounds ordered might be compared with the budgeted, but there is always some lag between the orders and sales which would detract somewhat from the value of this information. Executives and manufacturing officials are interested in knowing to what extent the incoming orders are taken care of mill capacity. For this reason, instead of showing pounds ordered as a percentage of budget, they are shown as a percentage of normal. Otherwise, this information about orders is presented in the same way as the information about sales.

PREPARATION OF SALES FORECAST BY WEEKS.

This report has previously discussed the seasonal variation of sales from period to period.

It was found after working with the sales budget based on a normal season's variation by periods, that there were further refinements that could be made, to eliminate certain mental reservations. It was a well-known fact that sales during the first week of a month were always heavier than during the other weeks, due to wholesalers ordering for shipment the first of the month. Where the period budget was simply divided into four parts, there was always a certain amount of mental reservations when comparing actual and budget.

The amount of variation of this nature was studied. The first and last months of the year were omitted from this study because they were distinctly abnormal months, greatly affected by year-end peculiarities.

Several years' sales were then accumulated according to the week of the month: first week, second week, third week and fourth week. Every three months there was an extra week, due to the fact there were 52 weeks in a year or 13 weeks in a quarter.

In those months where there were five weeks, the sales were divided according to the first, second, third,

fourth or fifth week of the month. The offices were closed Saturdays, Friday being the last day of the week as far as business was concerned. The first week of the month was that week having the first day falling between Sunday and Friday. The following weeks became the second, third, fourth or fifth weeks of the month.

After studying this information a definite sales trend during the month was found, the first week running highest and the last week lowest, with the two intervening weeks stepping downward between the first and last weeks.

Where months had five weeks, the second week of the month was the heaviest week, rising from the first week to the second week, dropping down in the third, fourth and fifth weeks. This was due to the fact that not only do merchants order for first of the month shipment, but also, there was a tendency for merchants to put off ordering until the first of the month.

The question may be raised why seasonal variation was not determined by weeks rather than by periods which would make allowance for this fact. This was tried but it was found that enough information was not available to get an accurate seasonal variation by weeks; when the information was grouped by periods it became easier to obtain a reasonably accurate seasonal variation.

With the information available showing the normal seasonal variation by periods, knowing the location of hol-

idays, and knowing the nominal trend of sales by weeks it became possible to set sales budgets by weeks which removed the need of mental reservations on this point.

REPORT OF SALES, POUNDS AND PRICE.

A fact which became of increasing importance as the study of forecasting progressed was that of price. As discussed in the section on sales forecasting, sales are the result of two elements: pounds shipped and price per pound. Price is also important in this company as in other companies, in that the higher classes are more profitable to handle than the lower classes. Generally speaking, as the average price per pound rises, profits also rise.

Weekly Report of Sales, Pounds and Price.

In order to keep this factor of price more firmly in mind and followed closely, a report was introduced which showed sales, shipments, and price per pound. A copy of this report is shown on the following page.

This report shows the sales, shipments and price per pound for the preceding week and also for the year to date, comparing these items in each case with the budget.

Weekly Report of Sales, Shipments, and Price

Week Ending__________________

	Week				Total for Year to Date			
	Budget	Actual	% of Budget	%I-D over Last Year	Budget	Actual	% of Budget	%I-D over Last Year
Sales								
Pounds Shipped								
Price per Pound								

SD 10

The percentage of items to budget is shown, as well as the percentage of increase or decrease over the previous year. This report has been valuable in keeping in the foreground the importance of price and in following the progress of this factor.

A question may be raised as to why this report was not combined with that of "Sales and Orders", previously mentioned. It was impractical to get the record of pounds shipped before the Wednesday following the close of the week. Sales and orders were ready on Monday and the executives were always anxious to get this information quickly. Two reports were, therefore, made.

Quarterly Report of Sales, Pounds and Price.

If the average price per pound has risen or fallen, what has been the cause? This must be determined before any action can be taken.

This information is to be found in the quarterly report shown on the next page. The information is presented by groups or classes of papers. The form is used for yearly as well as quarterly information. In addition to showing the sales, pounds and price for each group of papers, these sheets also show the relative importance of each group, expressed as a percentage of the total.

If the price drops it may be due to a general decline in price, it may be due to the introduction of new

RECORD OF SALES, SHIPMENTS, AND PRICE PER POUND

FACTOR

NAME OF GROUP										
BOOKS										
COVERS										
TOTAL BOOKS & COVERS										
BONDS										
WRITINGS										
TOTAL BONDS & WRITINGS										
TOTAL BKS., COV., BDS. & WRTG.										
ADVERTISED WEDDINGS										
NON-ADVERTISED WEDDINGS										
TOTAL WEDDINGS										
GREETING CARDS										
TOTAL WEDDINGS & GREETING CDS.										
ARTISTS PAPERS										
BLUE PRINTS										
BOOK PAPERS - NON-ADVERTISED										
BOX COVERS										
GOVERNMENT PAPERS										
MOUNT AND MAT PAPERS										
MISCELLANEOUS TECHNICAL PAPERS										
TOTAL										
JOBS										
TOTAL ALL PAPERS										

low priced lines, or it may be due to sales of low priced papers increasing their relative share of the total company volume. All this information can be found in this report.

ADVERTISING EXPENSE BUDGET

One of the largest items in distribution expense is that of advertising. There are several methods of determining the amount of advertising expense to be included in the company budget: *

1. It may be established at a sum sufficient to cover the particular advertising task required during the coming year.
2. It may be based on a certain percentage of the previous year's sales.
3. Instead of the previous year's sales, the percentage may be based on the coming year's sales.
4. A variation of 2 and 3 is found in the setting of a certain definite sum per unit of sale rather than using a percentage of sales. For example, it may be determined to spend $1 for each unit sold.... the unit costing $20.

Methods two and three are the ones most frequently used. They obviously cannot be used if the company is new in the field or if the company is establishing a new product. In most cases, however, where companies have been in operation for some time they have established quite definite information about conditions and can expect changes from the previous years' sales to be reasonable rather than exceptional. Under these circumstances the use of the per-

*See A.A.Haase - "The Advertising Appropriation" - Page 15 - Harper & Brown, N. Y. C.

centage of present or coming years' sales is quite natural, inasmuch as it can be included in the company's cost figures without disturbing greatly the levels of previous years.

In any event, regardless of which system is followed, the advertising expense must, first or last, be broken down into specific tasks, and the estimate shown for each task. It is important to show the methods by which the appropriation is to be spent and the amount to be spent for each method.

In order to arrive at this information, consideration must be given to what specific tasks are to be accomplished during the coming year and how it is expected to accomplish them. In this consideration many factors must be weighed such as:

1. Sales in previous years by lines.
2. Profit received from various lines.
3. Productive capacity.
4. Sales trend of each line.
5. Competition.
6. Public acceptance
7. Market coverage.

It is difficult to weigh a number of factors in one's mind at the same time. The outcome usually is that certain factors receive undue consideration, based on the particular attitude of the person considering them. In

order to overcome this difficulty, a line rating was developed to consider each of these factors separately and obtain a single rating for each line, which would combine all factors.

First, all factors having any possible bearing on the rating or the value of a line were listed and studied. Next, the relative importance of each factor was determined. Following this, each line was given a rating for each factor from 1 to 10, showing to what extent the line met the requirements of that factor. Finally, all factors were totaled for each line and the average obtained. The table on the next page gives an example of how this rating table was worked out.

The final rating gave a very satisfactory measure of the value of each line to the company. This rating could not be taken arbitrarily as the only measure of the line's value. At the same time, it represented a decided improvement over an attempt to measure mentally a host of factors for each line.

Advertising Budget Report.

Once the advertising budget has been determined, the actual expenses must be checked periodically against this budget, to keep the actual at all times within the planned limits. The form on the following page shows a report used for this purpose. This report presents a clear

Determination of Line Rating

	Value	Line Rating	Value x Rating
Inside Factors	50		260
Profit-net	10	10	100
Profit-before overhead	10	8	80
Profit-net per pound	10	5	50
Machine capacity	10		
Stock on Hand	10	3	30
Outside Factors	50		365
Sales Trend-amount	10	7	70
Sales Trend-percentage	10	9	90
Marketability .	15	8	120
Merchants' turnover	10	7	70
Merchants' Inventory	5	3	15
Total	100		625
Final Rating (Maximum-10)			6.25

Advertising Department

Comparison of Expenditures and Budget

Class of Expenditure	Budget			Expenditure		Variation		Balance
	Total	This month	Year to date	This month	Year to date	This month	Year to date	for Remainder of year
apers in Group "A"								
Direct Mail								
Trade Paper								
Sampling								
Specimens								
apers in Group "B"								
Magazine								
Sampling								
Display								
Specimen								
ther Groups								
eneral Advertising Items								
echanical Charges								
dministrative Expense								
Total								

picture each period of exactly what has happened in the Advertising Department. It compares this with the budget and shows at all times just what can be expected in the future. This information is presented in detail by types of advertising.

Testing Advertising Effectiveness.

The advertising budget report will show how closely the actual expenses followed the budget. It will not measure the effectiveness of that advertising nor give any facts that will show whether the money might have been spent more wisely in other ways.

With all the millions of dollars spent on advertising each year in the United States, there is still very little agreement as to the best method for testing advertising. The Association of National Advertisers, probably the most influential body of advertisers in existence, is at the present time spending a large sum of money to determine the most effective way of testing advertising. Many different ways have been tried.* There is so much question about them that none can be recognized as a cure-all.

1. Trial by Jury.

A method sometimes used is that of testing different advertisements by some form of jury. This jury may consist of selected prospects, the boss' wife, or the boss himself. The difficulty with this is that no

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*Handbook of Business Administration Page 54 - W. J. Donald, McGraw-Hill, N. Y. C.
American Business Practice Page 983 - Ronald Press, N. Y. C.

matter how carefully and impartially the jury may judge, the result is not necessarily accurate in determining the pulling power of an advertisement. The advertisement which appeals most to a jury may be the one which is least effective. "Printer's Ink Monthly" recently ran a series of advertisements in pairs, inviting the readers to check their selection of the most effective advertisement against the actual results. It was interesting to see how frequently advertising men picked as the most effective advertisement the one which actually had pulled the smaller response, as measured by the returns.

2. Coupons.

Probably one of the most widely used methods of testing advertisements today is that of coupons. Dr. Daniel Starch in an analysis made a few years ago of some 5,000,000 inquiries concluded that there was a reasonably close correlation between inquiries and sales. There is always the danger, however, that more emphasis will be placed on the coupon rather than on the getting the prospect to buy.

3. Sales.

The result desired from advertising is the selling of a product. Therefore, if some way could be found to actually compare sales from different advertisements, this method would be the most practical. An advertising

campaign or an advertisement is often tested out in a particular city in a small way, before the general campaign is released. There is no question but that it is good judgment to try advertising in a small way before investing a great deal of money in a wide-spread campaign. A great deal has been done in the selecting of test cities which will reflect the conditions which may be expected in the general campaign. Much has also been done in the selection of control cities with which to compare results in the test cities. Conclusions from test cities are not entirely valid in that there are many variables that cannot be eliminated, such as weather, position of city in the economic cycle, local tastes, competitive conditions and similar factors which may change quite quickly.

Retail stores and mail order companies are fortunate in their opportunity to test the value of advertising. They can tell quickly the value of most of their advertising because its results must be quickly evident in the sales of the particular merchandise it features.

4. Consumer Research.

On some products the advertisers have gone into the market, making a house-to-house survey of representative samples of the consumer's market they planned to reach with the advertising. These prospects were asked such questions as: "Do you know the product," and "Have you

bought the product?" This method, of course, is expensive. It is not always accurate, in that answers are often biased and therefore unreliable.

5. Testing of Sampling.

In the testing of the effectiveness of sampling, whether house-to-house sampling or sampling through dealers, favorable results have been secured in some cases by a secondary house-to-house survey some months later, to find whether the recipients were then using the previously-sampled product.

Difficulty of Applying Short Time Testing in Some Companies.

Strathmore, like many companies, has found it quite difficult to use the shorter time forms of advertising testing. Generally, the volume of individual lines is insufficient to justify frequent advertising on each line. Where a line contains many items, enough of the items are not in frequent demand and, therefore, a time lag in ordering is set up which makes it impossible to use wholesalers' orders as a check on the value of advertising. There is a strong tendency for printers and advertisers to save the advertisements because of the reference value they have in the suggesting of ideas. The wholesalers' salesmen are responsible for influencing many choices of paper made by a printer, governed by the salesmen's attitude toward individual papers.

The cost of initial preparation of advertisements for reaching the printing field is such a large part of the complete cost of advertising that it is not economical to test in a small way. The advertising manager must use his judgment as to the effectiveness of advertisements, based on his previous experience.

Coupons are limited in value in testing the ordinary paper mill advertising, in that samples are quite ineffectual "hooks". Printers in many cases have samples of the stock. In the offering of other inducements the coupons tend to measure the appeal of the inducement rather than the effectiveness of the advertisement in selling the particular product.

The aim of advertising is the obtaining of sales. Although it may not be possible to measure the effectiveness of a particular advertisement for a short period of time, the effectiveness over a longer period of time can be determined by a comparison of sales received, and advertising expense. By watching the trend of sales relative to the amount of advertising spent by lines, it is possible to determine the degree to which different types of advertising are pulling, or the degree to which different lines are reacting to the advertising. By comparing advertising effort with sales over a period of years, and by watching this information as it becomes available from year to year, the knowledge of advertising effectiveness is constantly revised and improved.

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[illegible] like many companies, has found it quite difficult [illegible]

Although this method is a disappointment to those who want to secure exact mathematical answers, this somewhat inexact method does prove reasonably practical in the control of advertising expenditures.

In the same way, in the checking of advertising expenditures by cities and territories, the results can be checked over a period of years and from year to year. It serves as a control in the placing of advertising effort by territories. It may be decided to spend more than the normal amount of advertising in a certain city at a certain time. If, however, the expenditure of such excess sums fails to bring adequate returns, such expenditures must eventually be reduced to the point where they are in line with expenditures in other territories, or with profit expectations.

Report of Advertising Expense by Lines and Cities.

Strathmore, after a study of this problem, inaugurated an analysis of advertising expense, in two sections: By lines and by cities. A copy of the form used is shown on the following page. This form reports first of all, the sales, both budgeted and actual, and then shows the advertising cost, both budgeted and actual. The figures of both sales and advertising are reported inasmuch as it is desired to see whether variances in advertising cost may be compensated for in similar variances in sales.

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[illegible] conversely [illegible] revised and improved.

Analysis of Advertising Expense

Year Ended ______________

	SALES		ADVERTISING COST		ADV. % TO SALES	
LINE OR CITY	BUDGET	ACTUAL	BUDGET	ACTUAL	BUD.	ACT.

The form is made out in two sections:

1. Showing the Expense by Lines.
2. Showing the Expense by Customers and Cities.

The first section of this report shows for each line and group of lines the amount which the advertising budget has included for that particular line or group. It then shows the actual expense for each line and the sales received from that line. The relation of advertising to sales is also expressed, shown in percentage form.

The section by customers and cities is made up on the same form, except that the advertising expense is not budgeted by customers or cities due to the difficulty of anticipating customer requirements accurately.

The expense detail in these reports is used in the sales cost accounting system discussed later in this report.

CONTROL OF SELLING ACTIVITY.

The primary object of business, has been discussed before, is that of making a profit. The productivity of salesmen in this respect is shown in the semi-annual analysis of profit which is made not only by lines but by territories. A more frequent report of sales results is needed, however, which will let the sales executives know more quickly as well as more frequently, what is happening in the field.

Strathmore salesmen function more than in the nature of missionary men than true salesmen. Once they have placed a line they must then work with the merchants and with the salesmen to keep that line moving.

Sales Results.

A report of lines placed is important and this information is, therefore, reported when a line is placed, and, secondly, at the end of each period. This information is reported in one central report showing, first of all, information about what line was placed, where it was placed, and the size of the initial order.

Beyond this, it is important to know the results of the salesmen's work, as reflected in sales. This information is, therefore, reported by salesmen and compared with

the budget for each salesman, both for the period and for the year to date. This shows at a glance how close each salesman has come to reaching his budget.

Sales Activity.

It is not good management to leave salesmen to their own devices with only the final result checked. It is important to know also what they have done to secure those results, so that if results are not satisfactory this information will be available to help determine the cause.

A report is, therefore, made which shows the number of days spent with the trade, and the number of calls made on the merchants and merchants' customers. The number of days the salesman actually spent is compared with the number of days he was scheduled to be with the trade. This information is shown both for the period and for the year to date.

Scheduling is not done beyond the unit of days. Experience has shown that a salesman on this type of work can average six calls a day, but it was found impractical to schedule the calls of each day. In reporting calls, therefore, the report does not go beyond the totaling for each salesman the number of calls made on merchants, on merchants' customers, and the total. In order to see how well the salesman meets the normal average of six calls per day,

the final column shows the actual average calls per day. All information about calls is shown for both the period and for the year to date.

Report of Sales Activity and Results.

The information about sales results and sales activity is combined in one report. This enables a sales executive to study at one time the complete information about what the salesman did: his activity in the field and his accomplishments. A copy of this report is shown on the following two pages.

Record of Calls on Customers.

The section dealing with market analysis has discussed how salesmen schedules are planned. This information is transferred by the Sales Analysis Department to a "Record of Calls on Customers". A copy of this is shown on the following page. It is simply a ruled sheet with spaces for "Scheduled" and "Actual" for 13 periods.

The yearly schedule being only tentative, this schedule is used only to record for each city the total number of days scheduled for that city for the year. When, at the beginning of each period, each salesman makes a final revised schedule for the period, this information is placed in the "Scheduled" column for the proper city and period.

STRATHMORE PAPER COMPANY

REPORT OF SALES ACTIVITY AND RESULTS

SALES ACTIVITY

TERRITORY AND SALESMAN	DAYS WITH TRADE				CALLS MADE							
	PERIOD		YEAR TO DATE		PERIOD				YEAR TO DATE			
	SCHEDULED	ACTUAL	SCHEDULED	ACTUAL	MER.	MER. CUST.	TOTAL	AVG. CALLS PER DAY	MER.	MER. CUST.	TOTAL	AVG. CALLS PER DAY
#1-2 E.M.HUGHES												
#3 W.A.MCGILPIN												
#4 R.F.ARNOLD												
#5 E.B.WHITTEMORE												
#6-7 S.C.PACE												
#8 T.C.MACORMACK												
TOTAL #1 - #8												
#9 W.M.BLACKFORD												
GRAND TOTAL												

SALES RESULTS

TERRITORY AND SALESMAN	SALES								LINES PLACED		LINES DROPPED	
	PERIOD				YEAR TO DATE				PER	YR	PER	YR
	BUDGET	ACTUAL	% I OR D OVER BUDG	% I OR D OVER 1934	BUDGET	ACTUAL	% I OR D OVER BUDG	% I OR D OVER 1934				
#1-2 E.M.HUGHES												
#3 W.A.MCGILPIN												
#4 R.F.ARNOLD												
#5 E.B.WHITTEMORE												
#6-7 S.C.PACE												
#8 T.C.MACORMACK												
TOTAL #1 - #8												
#9 W.M.BLACKFORD												
#10 HOUSE ACCOUNTS												
GRAND TOTAL												

SD 5A

CHANGES IN LINE PLACEMENTS

LINES PLACED - LINES DISCONTINUED

PERIOD

LINE	AGENT AND CITY	VALUE OF INITIAL ORDER	TOTAL VALUE YEAR TO DATE

RECORD OF CALLS ON CUSTOMERS

REPRESENTATIVE: TERRITORY PAGE

CITY & CUSTOMER	1		2		3		4		5		6		7		8		9		10		11		12		13		TOTAL	
	S	A	S	A	S	A	S	A	S	A	S	A	S	A	S	A	S	A	S	A	S	A	S	A	S	A	S	A

SD4 S-SCHEDULE A-ACTUAL

When the salesman sends in reports of his calls this information is checked in the "Actual" column, first checking each call against the customer visited. The calls for the city are then totaled and the number of days spent in the city is recorded.

This form shows at all times how much attention any customer in any city is receiving. If sales drop for a customer or city, this record will show whether infrequency of contact may be the cause.

Report of Salesman's Calls.

Each salesman fills out each day a sheet showing the calls made during the day, numbering each call and checking to indicate the type of call. Where he has detailed information to report, concerning the call, he attaches a separate sheet of detailed information, simply marking this sheet with the date, and number. Stenographers at the home office then type these. At the end of the week the "Reports of Salesman's Calls" are typed for all salesmen and sent to the sales executives and the sales analysis department. Their being collected and sent in a group to the sales executives enables them to have at one time a complete picture of the operations of the sales force during the previous week. If any salesman has failed to report, a blank sheet will indicate this fact.

REPORT OF SALESMAN'S CALLS

SALESMAN TERRITORY DATE

NO.	CITY	NAME	TYPE OF CALL			
			STRTH. CUST.	MERCHANTS' CUST.		
				PTR.	AGCY.	CONS.

INSTRUCTIONS: PLACE CHECK IN PROPER COLUMN TO SHOW TYPE OF CALL.
IF MORE THAN ONE CALL WAS MADE SUBSTITUTE NUMBER OF CALLS IN PLACE OF CHECK MARK
IF NO CONTACT WAS MADE SHOW "N.C." IN THE COLUMN FOR THAT CALL
IF A SALES MEETING WAS HELD SHOW "S" IN COLUMN.

SD-3

Salesmen's Expense Reports.

With the coming of the depression Strathmore reviewed its control of travelling expense to see what could be done to reduce this large item of expense.

It was finally decided to establish a definite standard allowance for the salesmen's living expenses. It was felt that this was the only fair method, inasmuch as it told each salesman how much he could use for living expenses. Formerly this limit was tacitly understood but varied somewhat according to the taste of the particular salesman.

In order to check the travelling expenses and the other items, the form shown on the following page was developed. This form is comprehensive and shows in detail the travelling record of each salesman and the expenses incurred. It shows a complete picture of the salesman's operations and allows accurate control of his expenses. The information shown on this report can be seen by reading the various column headings and explanations.

Report of Branch Office Expense.

It is equally important to have supervision over branch office expenses. The report on the next page is filled out each period by any salesman having a branch office. It contains, first of all, spaces to insert expenses for travel away from the home office. It shows in separate boxes the expenses of the home office, both current

VOUCHER FOR TRAVELING EXPENSE FOR WEEK ENDING ____________________

DATE OF MONTH								NO. DAYS ON TRIP ______	
CITY									
LEFT A.M. P.M.									
RETURN A.M. P.M.								TOTAL	AVER. PER DAY
ITEMS	SUN.	MON.	TUES.	WED.	THURS.	FRI.	SAT.		
UNTROLL. & ABLE — R.R. FARES									
PULLMAN									
AUTO ALLOWANCE									
TOTAL									
STANDARD ALLOWANCE									
ENTER. & MISC. — MEALS									
MISC.									
TOTAL									
GRAND TOTAL									

DAY	ENTERTAINMENT				MISCELLANEOUS	
	NAMES OF PERSONS ENTERTAINED	COMPANY CONNECTION OF EACH	EXPLAIN FOR EACH WHETHER LUNCH, DINNER, ETC.	$	REASON	$
SUN.						
MON.						
TUES.						
WED.						
THURS.						
FRI.						
SAT.						

SIGNED ____________________

JOURNAL PAGE NO. ____________________ APPROVED ____________________

BEGINNING THIS DATE TRAVELING EXPENSE ALLOWANCES ARE TO BECOME EFFECTIVE AS OUTLINED BELOW:

UNCONTROLLABLE EXPENSE WHICH INCLUDES:

A - RAILROAD FARES

B - PULLMAN CHAIR CAR FARES (FOR DISTANCES OVER 75 MILES.)

C - PULLMAN SLEEPER FARES IN EXCESS OF $4.00 PER NIGHT.

D - AUTO MILEAGE 6¢ PER MILE (FOR TRIPS WITHIN 100 MILES OF WEST SPRINGFIELD. RAILROAD FARES SHOULD BE CHARGED FOR LONGER DISTANCES UNLESS SPECIAL PERMISSION IS SECURED.) FOR OVERNIGHT AUTOMOBILE TRIPS, 75¢ PER NIGHT MAY BE ADDED FOR STORAGE.

NOTE: RAILROAD AND PULLMAN FARES SHOULD BE REPORTED AT COST. IT IS THE RESPONSIBILITY OF THE PERSON TRAVELING TO INQUIRE IN ADVANCE OF THE TRAFFIC MANAGER, OR FROM RAILROAD TICKET OFFICES, OF ANY REDUCED RATES IN EFFECT. THIS APPLIES PARTICULARLY TO THE REDUCED RATES NOW IN EFFECT WEST OF CHICAGO AND SOUTH OF WASHINGTON. REDUCED RATES ALSO APPLY ON PULLMAN CHARGES IN THESE AREAS.

STANDARD ALLOWANCE EXPENSES OTHER THAN THOSE LISTED ABOVE ARE CONTROLLABLE EXPENSES, AND WITH THE EXCEPTION OF ENTERTAINMENT EXPENSES, ARE TO BE PUT ON THE STANDARD ALLOWANCE BASIS AS FOLLOWS:

A - REGULAR TRAVEL OUT OF SPRINGFIELD
FULL DAY - $10.40 - 1/2 DAY (OVERNIGHT) - $5.20 - 1/6 DAY (EACH MEAL) - $1.73.

B - TRIPS TO THE RISING MILL AND RETURN INCLUDING THE USE OF AN AUTOMOBILE - $6.72.

C - RESIDENCE SALESMEN ALLOWANCE: - SALESMEN LIVING IN RESIDENCE IN THEIR TERRITORY WILL BE ALLOWED A FLATE RATE OF $2.00 A DAY TO COVER THE COST OF LUNCHEONS, INCIDENTAL AUTOMOBILE USE, STREET CAR FARES, TELEPHONE CALLS, AND ENTERTAINMENT. THIS ALLOWANCE ONLY APPLIES TO DAYS SPENT WORKING IN THE CITY. THIS ALLOWANCE DOES NOT APPLY TO HOLIDAYS OR WHILE TRAVELING IN OTHER AREAS OR WHILE ON MILL TRIPS.

D - RESIDENT SALESMEN ATTENDING MILL MEETINGS: - RESIDENT SALESMEN VISITING SPRINGFIELD FOR MILL MEETINGS OR OTHER BUSINESS ERRANDS, WILL RECEIVE THE FULL $10.40 PER DAY, BUT NO EXTRA CHARGES FOR ENTERTAINMENT OR MISCELLANEOUS ITEMS WILL BE APPROVED WITHOUT SPECIAL APPROVAL.

ENTERTAINMENT - IS TO BE CONSIDERED SEPARATELY WITHOUT ANY SET ALLOWANCE, WITH THE EXCEPTION OF THE SPECIFIC CASES MENTIONED ABOVE.

IN ALL ENTERTAINING THE NAME OF THE PEOPLE AS WELL AS THEIR COMPANY CONNECTION MUST BE SHOWN. IN ADDITION TO THIS, AN ENTRY MUST BE MADE AS TO WHETHER THE ENTERTAINMENT WAS LUNCHEON, DINNER, ETC. IN CASE DIFFERENT PERSONS OR GROUPS ARE ENTERTAINED DURING THE DAY, THE FORM SHOULD SHOW JUST WHICH PEOPLE WERE TAKEN TO LUNCHEON WITH THE LUNCHEON COST OPPOSITE. OTHER ENTERTAINMENT FOR THE DAY WOULD APPEAR BELOW, WITH THE NAMES OF THOSE ENTERTAINED, THE NATURE OF THE ENTERTAINMENT, AND THE AMOUNT SPENT.

MISCELLANEOUS - ANY ENTRIES FOR MISCELLANEOUS EXPENSE ITEMS MUST BE EXPLAINED IN DETAIL UNDER THE DAY INCURRED ON THE LOWER PART OF THE FORM. SMALL REGULAR DAILY SUMS, PRESUMABLY FOR TIPS, BAGGAGE CHECKS, ETC., THAT HAVE BEEN APPEARING IN THIS SPACE, WILL NOT BE ALLOWED AFTER THIS, SINCE THESE EXPENSES ARE PROVIDED FOR IN THE STANDARD ALLOWANCE.

AUDITING - THE NEW FORMS WILL BE AUDITED BY THE BOOKKEEPING DEPT., IN ADDITION TO CHECKING MATHEMATICAL ACCURACY. ALL EXPENSES MUST BE SUBMITTED ON THIS FORM.

MORE THAN ONE TRIP IN WEEK - WHENEVER TRAVEL WITHIN A GIVEN WEEK OCCASIONS A RETURN TO THE MILL, A SECOND AND SEPARATE EXPENSE VOUCHER SHOULD BE USED FOR THE SECOND PART OF THE WEEK.

RAILROAD FARES AND PULLMAN CHARGES - THESE ITEMS WILL BE CHECKED AGAINST A SPECIALLY PREPARED TABLE SHOWING THESE CHARGES BETWEEN ALL CITIES.

AUTOMOBILE ALLOWANCE - APPROXIMATE MILEAGE OF THE CITIES COVERED WILL BE CHECKED BY THE BOOKKEEPING DEPT.

ENTERTAINMENT AND MISCELLANEOUS - THE BOOKKEEPING DEPT. HAVE BEEN INSTRUCTED THAT NO EXPENSE VOUCHERS CAN BE ACCEPTED FOR PAYMENT UNTIL ENTERTAINMENT AND MISCELLANEOUS EXPENSE ITEMS HAVE BEEN ENTERED IN THE DETAIL REQUIRED BY THESE STANDARD INSTRUCTIONS.

DELAY IN SUBMITTING EXPENSE VOUCHERS - ALL EXPENSE VOUCHERS SHOULD REACH THE BOOKKEEPING DEPT. NO LATER THAN SATURDAY OF THE FOLLOWING WEEK.

SD12

REPORT OF BRANCH OFFICE EXPENSES

Four Week Period Ending ____________________

Territory No. __________ Salesman ____________________

TRAVELLING EXPENSE Reports submitted: Week Ending	
" "	
" "	
" "	
Total Travelling Expense	

OFFICE EXPENSE Rent	
Telephone-Service Charge	
" -Other Calls	
Telegraph	
Postage	
Supplies	
Total Office Expense	

CAPITAL OR SPECIAL EXPENDITURES	
Total Capital or Special Expenditures	

RECORD OF CASH Cash on hand at beginning of Period	
Plus cash received during period	
Total Minus Disbursements Office Expense	
Travelling Expense	
Capital or Special Expenditures	
Total disbursements	
Cash on hand at end of Period	

INSTRUCTIONS: THIS REPORT IS TO BE SENT TO WEST SPRINGFIELD ON THE LAST SATURDAY OF EACH PERIOD. PAID VOUCHERS, IN DETAIL, COVERING ALL OFFICE EXPENSES ARE TO BE ATTACHED. COPIES OF TRAVELLING EXPENSE REPORTS ARE TO BE SENT TO WEST SPRINGFIELD WEEKLY. THE COPY COVERING THE FINAL WEEK OF THE PERIOD IS TO BE ATTACHED TO THIS REPORT. ALL EXPENDITURES FOR PERMANENT EQUIPMENT THAT SHOULD BE ADDED TO THE ASSETS OF THE COMPANY SHOULD BE ENTERED UNDER THE "CAPITAL EXPENSE" HEADING AND NOT "OFFICE EXPENSE".

expense and capital expenditures. Finally, it shows a record of cash received and disbursed so that the salesman's record can be checked with the home office record.

Sales Expense Budget.

It is as necessary for the selling expense to be budgeted as it is to have the advertising expense budgeted, and it is no more difficult.

Once the salesmen's schedules have been determined it is possible to predict with reasonable accuracy the cost of maintaining the salesmen in the field. The inside selling expense is even more easily predicted.

If the company is to reach the end of the year with a net profit as budgeted, it is necessary that every departmental expense be kept within the amount budgeted for that department.

The budget is detailed in the beginning of the year by expense items and broken down into periods. Each period the head of the department receives a copy showing for his department a comparison of the budget and actual, by items, for the period and for the year to date.

In addition, the field selling expense, exclusive of salary, is detailed for each salesman at the close of each period, and reported both to him and the sales executives. This keeps each salesman informed of his record for the previous period in comparison to his budget. This

report helps to do two things: It makes him watch his travelling expenses closely. It encourages him to follow his yearly schedule closely when making up his schedule for the particular period, for the budget also measures these fluctuations. It has been found that these reports are studied quite carefully by the salesman.

A copy of the report sent to the salesmen is shown on the following page. The reports sent to department heads are similar in form.

Form SD13

Strathmore Paper Company

FIELD SELLING EXPENSE

Period Ending Salesman

	Period		Year	
	Budget	Actual	Budget	Actual
FIELD EXPENSE				
Uncontrollable				
Railroad				
Pullman				
Auto				
Total Uncontrollable				
Standard Allowance				
Entertainment & Misc.				
Telephone & Telegraph*				
Total				
OFFICE EXPENSE				
Standard Allowance				
Telephone & Telegraph				
Rent				
Supplies				
Postage				
Total				

*Charges paid at West Springfield

TERRITORY EXPENSE AND PERFORMANCE ANALYSIS.

Field selling expense is one of the largest variables in distribution work. It is one which vitally affects the sale of paper and also the net profits.

The control of field selling operations is somewhat different than the control of factory operations. It is not possible to set an exact task for any one day. However, it is possible to determine over a period of time what an average task should be. If, after careful study, certain average tasks are set, it is possible to measure the variations from these average tasks and the cost of variations from the standard costs of these average tasks.

In the factory, standard cost accounting followed cost accounting as soon as it became possible to determine standards of operation. In the same way, when it becomes possible to determine standards of operation in distribution it will be possible to measure the cost of variations from these standards. There is not sufficient information available at the present time to set standards on most phases of distribution. It is possible, however, to establish standards in the control of field selling expense that will be reasonably dependable.

Frequency Requirements.

Salesmen's schedules are revised every period according to the salesman's judgment as to the requirements of his territory during the following period. Any information which may affect these schedules should also be available every period.

Time Requirements.

The information is needed as quickly as possible after the close of a period, so that if certain conditions may require correcting, those conditions will still be fresh in the salesmen's minds.

Financial statements for the Strathmore Paper Company are issued on the third Monday of each period, for the preceding period. It was found possible to collect the information about field expense and work this into final form so that it could be ready approximately two and a half weeks after the close of each period.

Basic Record - Territory Expense and Performance Analysis.

The work sheet finally developed for use in the calculating and analyzing of field selling expenses is shown on the following page. This form is practically self-explanatory by following the symbols and the "method" column in the work sheet.

This work sheet has two sections in the upper half for standard, one for the preceding period and one for the year to date. In each of these sections there is room for

Territory Expense and Performance Analysis

Sales Research Dept.

Date

Symb.	Description	Method	Period Standard	Period Actual	Period Difference	Year to Date Standard	Year to Date Actual	Year to Date Difference
A	Mill meeting & other days at mill	-						
B	Days with trade	-						
C	Number of calls	B x D						
D	Calls per day	C ÷ B						
E	R. R. Expense	-						
F	Other travel expense	-						
G	Branch office expense	-						
H	Salary	-						
I	Total salary and expense	-						
J	R.R. Expense per day with trade	E ÷ B						
K	Other Trav. " " " " "	F ÷ B						
L	Salary " " " " "	H ÷ B						
M	Tot. Salary & Exp. " " "	I ÷ B						
N	Cost per call	I ÷ C						

Sym	Variances Due to: -	Method	Period	Year to Date $
O	Salary rate other than standard	DH		
P	R.R. Expense per day with trade	DJ x AB		
Q	Other travel expense per day " "	DK x AB		
R	Salary for excess days in office	DB x SL		
S	Number of calls per day	ABxDDxSN		
T	Branch office expense	DG		
U	Misc. and errors	-		
V	Total Variance	-		
W	Standard cost of actual calls	AC x SN		
AI	Actual Total Expense and Salary	AI		

% to Sales	Per-iod	Yr. to Date
Standard Sales		
Actual Sales		
% of W to Standard Sales		
% of AI to Actual Sales		

Territory # ______ Salesman ______________________ ________ Period

the "Standard", or calculated expectation. The actual performance follows, and the difference between standard and actual is given in the third and sixth columns.

Still discussing the upper half of this report, "B" shows the number of days which the salesman actually spent with the trade, compared with expectations.

Line "A" shows the balance of the working days, which figures the total of working days not spent with the trade. For example, in a period of four weeks, based on the salesman's working only five days a week, there would be a total of only 20 working days, which figure would be further reduced by holidays. If, because of his attendance at the mill for sales meetings or for any other reason, the salesman could not be with the trade, the total of such days would be shown on line "A".

Line "C" shows the number of calls expected compared with those actually made by the salesman.

Line "D" is found by dividing the actual total calls made by the number of days with the trade. In the case of the standard, this number of calls per day is a predetermined average based on past performance.

Columns "E" to "I" are self-explanatory, showing the different items of field selling expense.

The figures in columns "I" to "M" are found by dividing the actual standard or actual expense by the number of days with the trade. The standards of these items are

predetermined, based on a study of previous expenditures, plus research into what could be expected.

Line "N" is the total salary expense divided by the number of calls.

The second half of this work sheet shows first of all, the variances between standard and actual figures, and, secondly, shows some pertinent percentages. This section showing variances measures the losses or savings due to the actual performance being greater or less than standard or expected performance, as follows:

Item "P" measures the saving or loss due to the salesman varying his travelling plans from the travelling plans as originally scheduled. For example, if the salesman's schedule has planned on his being out 100 days with a total railroad expense of $300, and he was actually out 100 days but spent $325, the excess is $25 or 25¢ per day. The reason for having this variation measured on a per-day basis, rather than in total, is due to the fact that this method shows the variances in performance, exclusive of the variation in days. Later, the question of variation in the number of days is measured separately.

The railroad variance is found by multiplying the difference for item "J" by the actual for item "B", as shown in the "Method" column. For example, if a salesman were actually out 100 days and his actual railroad expense per day was 25¢ more than standard, the total variance would be $25.

Item "O" shows the difference that resulted from his salary being higher or lower than a normal salary. This is simply the figure shown in the upper half of the report in the "Difference" column for item "H"....the difference between actual and standard salary.

Item "Q" is the difference between standard and actual travelling expense, determined in the same way.

Item "R" - Variance due to the salesman being in the office (and therefore not with the trade - indicates the cost or saving due to the salesman spending more or less time in the field than expected.

Item "S" measures the saving or loss due to the salesman making more or fewer calls per day than expected in standard performance. This is found by multiplying the actual days with the trade (A B) by the difference between actual and standard calls (D D), by the standard cost per call (S N).

For example, if the salesman had been out 100 days and made only 5 calls per day, instead of the expected 6 calls per day, there would have been a loss of 100 calls. The standard cost of these calls being $5, the loss, therefore, was $500. Here again, this method is followed in order to consider each variable separately.

Item "T" is simply a balancing figure for any erros that may creep in to the calculations, inasmuch as it

would not be worth while to make this accurate within pennies.

Item "W" shows what the cost should have been of the actual calls the salesman made.

"A I" shows the actual total expense and salary, placed here for easy comparison with item "W".

The final section of this work table shows percentage comparisons. Actual sales are compared with standard sales. The standard cost of the calls actually made by the salesman is compared with standard sales. The actual expense and salary are compared with actual sales.

Report - Territory Expense and Performance Analysis.

The work sheet described in the preceding paragraphs is complicated. It measures, however, item by item the saving or loss due to the salesman failing to equal standards or predetermined normals. The method of calculating these variances is not important to the executives as long as they are convinced that the method is sound. They are interested only in the final results. Therefore, a report is made which shows for each territory the important items, abstracted from the work sheets. The copy of this report is shown on the following page. This is not explained due to the fact that each item is simply a copy of the amount taken from the work sheet.

Territory Expense and Performance Analysis

Date

VARIANCES DUE TO: -	TERRITORY 1 & 2 HUGHES	TERRITORY 3 MCGILPIN	TERRITORY 4 ARNOLD	TERRITORY 5 GRASSLY	TERRITORY 6 & 7 PACE	TERRITORY 8 MACORMACK	TOTAL TER. 1-8	TERRITORY 9 BLACKFORD	TOTAL INCLUDING TER. 9	HOUSE ACCOUNTS	GRAND TOTAL
SALARY RATE OTHER THAN STANDARD											
R.R. EXPENSE PER DAY WITH TRADE											
OTHER TRAVEL EXPENSE PER DAY WITH TRADE											
SALARY FOR EXCESS DAYS IN OFFICE											
NUMBER OF CALLS PER DAY											
BRANCH OFFICE EXPENSE											
MISC. AND ERRORS											
TOTAL VARIANCE											

STANDARD COST OF ACTUAL CALLS											
ACTUAL TOTAL EXPENSE AND SALARY											

STANDARD COST OF ACTUAL CALLS % TO STANDARD SALES											
ACTUAL TOTAL EXPENSE AND SALARY % TO ACTUAL SALES											

SALES COST ACCOUNTING

Introduction.

Sales cost accounting, or distribution cost accounting, is a comparatively new movement in the field of control statistics. Factory cost accounting has been in use for many years, and resulted in a great increase in manufacturing efficiency. In the more recent years of factory cost accounting, a system of standard cost accounting has been developed. This has set up standard levels of performance as measuring sticks with which to judge factory operations.

The difficulty in establishing distribution cost accounting has been that most of the cost factors entering into the distribution of goods cannot be allocated as exactly as costs within the factory. Further, the chief problem for many years was that of producing enough goods to meet the demands of the market, and every effort was made to improve factory operating conditions. As the market became saturated, greater effort had to be made in selling goods and the cost of distribution rose correspondingly. With this mounting of distribution costs came the realization of the need for some control of these costs, and executives began turning their attention to cost accounting in the field of sales.

In a study made by the Association of National Advertisers in 1932, it was found that in a group of 312 manufacturers having an aggregate sales volume in 1931 of one billion dollars, that distribution costs varied from 15% of sales to 39% of sales. This means that there is in every manufacturing company a large amount of money spent for distribution for which there has been no adequate system of accounting. Practically no information about distribution costs has been available except the division by departments.

The Strathmore Paper Company has been a leader in the improving of factory methods and the reducing of factory costs. It was felt that the same attention should be given to the study and improving of its distribution costs. The study made of this problem and the system as adopted, as described in this report, was felt to be a long step in this direction.

Inadequacy of Net Profit as the Sole Measure of Value.

The first point that became apparent in studying methods of sales cost accounting was that some measuring stick other than that of net profit must be determined. Strathmore during the depression, like practically all other companies, manufactured certain items which were sold below the full cost of manufacturing. These lines showed no net profit after all costs had been charged

against them. Such lines showed a paper loss, but, in the strictest sense of the word, were profitable for the company at that time. They were profitable in that they helped to absorb part of the overhead expense of the company.

The customary system of cost accounting does not show the actual situation on such losing lines. Overhead expense must be distributed by some rather arbitrary systems. In actual operation, costs may be divided into two divisions: fixed and non-fixed costs. Every company must pay a certain amount of money for such items as depreciation, taxes, insurance, and general overhead. These costs must be met whether the mill operates at 25% capacity or at 100% capacity. With the company in operation, a decision as to whether a new line will improve the company's financial position should make due allowance for these charges.

It is not the purpose of this study or this report to consider the economic justification for selling lines at less than full cost. If, however, such lines are manufactured at less than full cost then the records should show exactly what effect they have on company operations and on this company's financial position.

For example, if the value of certain cities or certain territories is measured solely by the net profit

they show, then these cities or territories will be penalized for every pound of paper sold at a net loss. This situation is not right. If the company decides to manufacture a certain line of volume papers at a net loss in order to absorb a certain amount of overhead, the salesmen selling these papers should receive some credit for selling them, although naturally not as much as for lines which yield a net profit. The records should show not only the amount of their net loss, but should also show the extent to which they help to absorb overhead.

In establishing a system of sales cost accounting, therefore, a second index of value of lines and territories was wanted which would register "zero" when the company failed to improve its financial position through selling such lines or cities.

This second index figure became, logically, the margin remaining after all non-fixed charges had been allocated against the line or the city. In other words, this margin showed what was left toward the payment of overhead charges after all "out-of-pocket" cost of manufacturing and selling had been met.

This second index is referred to in the following discussion as "Profit Before Overhead Charges". This theory and method has met with some opposition on the part of accountants. The opposition centered not around the logic of the theory or plan, but, rather, around a somewhat hes-

itantly expressed fear that the use of this index would be dangerous. It was argued that sales executives would tend to drop closer to this point in order to obtain sales, with the result that the financial position of the company would suffer.

In the evolution of the second index of value, this danger was recognized and considered. It was decided that if it were to be a policy of making certain lines at less than full cost, that complete information should be available. It would be far better to risk the mis-use of information by sales executives than compel them to move blindly.

Need for Profit Information - Territories.

Profit is the aim of all business operations. It must be found between the selling price and cost of the product. An executive must consider many factors when planning sales, - factors that constantly shift like a kaleidoscope. Every expense in producing and distributing a product affects the final profit. Low volume - high expense lines vs. high volume - low expense lines; loss leaders vs. high profit style lines; highly competitive territories vs. high sales territories. A city with low sales of high profit lines may add more to the financial betterment of the company than a city with high sales of low profit lines. It is important that the executive have

at his command complete and accurate information. He must see how these many factors combine to produce the final measure of profit.

Advertising and field selling expenses may be allocated according to the sales or potential sales of the city. However, it may be found even under these conditions, that the profit is unsatisfactory and that the sales and advertising expenses can be used more profitably in other cities.

In addition to the effect of advertising, field selling expenses and manufacturing costs on profits there is the factor of freight expense which varies very widely according to distance. It costs for example only 10¢ per hundred weight to deliver paper to an adjoining city while it costs $2 to deliver to Texas.

Further, some customers order in very small quantities while other customers order in large quantities with a corresponding effect on handling costs at the mill.

Need for Profit Information - Lines.

Strathmore had a standard cost record by lines which showed the estimate of net profits per pound of paper as well as the estimated net profits as percentages of sales. There was no way, however, of modifying this by the amount of the individual lines sold. At the same time, such standards costs could not take into account the vari-

ations of actual from standard costs. A permanent record was needed which would show complete information about sales, expenses and profits on each line from the time it was originated until it was finally discontinued.

Frequency and Time Requirements.

The ideal condition would be to have profit information available daily. Obviously, however, the expenses of doing this would be terrific and even though it were available, the fluctuations from day to day in a small company like Strathmore would greatly depreciate the value of such profit information. The possibilities of costing each invoice and using a punch-card system for accumulating cost and profit figures was carefully studied, but it was found that the returns for this comparatively small company would not justify the expense. In a small company not only is it expensive to have frequent reports, but it is not entirely necessary in that the executives are able to maintain reasonable close contact with actual conditions through other means.

The policy of the company was to revise lines once a year, notifying the trade of the proposed changes on April first of each year. The Advertising Department during September of each year started making plans for the following year. Information concerning the profitability of lines was, therefore, most valuable at these two dates.

Twice a year was also found to be a logical frequency in that various fixed charges were adjusted during the sixth and thirteenth periods, the estimated accounts used during the previous periods being adjusted to equal the actual cost for each half year.

The preparation of sales cost accounting facts could be completed in time after the sixth and thirteenth periods to allow the final information to be available when needed for the purposes stated previously.

Basic Records and Report of Profit Analysis.

The form on the following page is that finally recommended and selected to record and report the final detailed information about profits. This is used as a basic record to show complete cost and profit information for each line and each city. As such, one sheet is used for each line or city, the entries to be made each half year, with totals to be shown at the end of each year. In addition, a report is made semi-annually to give complete information about operations, one section showing this information by lines and one section by cities and territories.

Sales Cost Accounting Methods Used in Preparing Figures for Profit Analysis Report.

This report does not attempt to describe the study of the various possible methods of sales cost accounting.

It presents the system as it was finally adopted, following the present form of the adopted report. The method of compiling the figures will be discussed as well as the reason for adopting that particular method.

It must be remembered that the system as finally adopted was tailored to meet the requirements of a particular company, The Strathmore Paper Company. It took into consideration the fact that the company was comparatively small, having relatively few markets, customers, lines, and transactions. A system which would be practical for such a company may be impractical for a company in which the numbers in each of these factors were far greater. However, the discussion will show the factors involved and the discussion of these factors will be valuable in any studies any other company may want to make along these lines. Regardless of how large or small a company may be, the fundamentals remain unchanged.

Description of Profit Analysis Table.

The table on the following page is lettered for this report and the description of each column is given in the following pages. As discussed previously, this table is used to show information by cities and territories as well as by lines. In some cases information and the collection of information varies by lines and cities, and in such cases the description is given for both divisions.

PROFIT ANALYSIS

LINE OR CITY

YEAR AND PERIODS	MARKET FACTOR	SALES % TO TOTAL	SALES			OUT-OF-POCKET COSTS																	PROFIT BEFORE OVERHEAD CHARGES		OVERHEAD CHARGES								NET PROFIT	
			GROSS LESS RETURNS AND ADJUSTMENTS		PRICE PER LB.	ADVERTISING — INCLUDING OVERHEAD CHARGES		FIELD EXPENSE — SALARIES, TRAVELLING AND BRANCH OFFICE EXPENSE			FREIGHT		SHIPPING — INCLUDING OVERHEAD CHARGES		SALES ALLOWANCES		SALES DISCOUNT AND MFG. VARIANCES		COST OF GOODS SOLD — LABOR, MATERIAL AND DIRECT OVERHEAD		TOTAL OUT-OF-POCKET EXPENSE				MANUFACTURING OVERHEAD		ADMINISTRATIVE EXPENSE AND SALES OVERHEAD		OTHER ADDITIONS & DEDUCTIONS FROM INCOME		TOTAL OVERHEAD & OTHER CHARGES			
			POUNDS (000)	$		$	%	DAYS	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%
	A	B	C	D	E	F		G	H		I		J		K		L		M		N		O		P		Q		R		S		T	

A. Market Factor.

This is the Sales Research final Market Factor for each city. This is revised from time to time as conditions change. This column is used only for the records by cities and territories. These market factors are used as measuring sticks with which to compare the sales, as described in "B".

B. Sales Percent to Total.

In the "Line" sheets this shows the percentage of sales of the line to total sales. This provides an index showing the relative importance of the sales of each line compared to the total of all sales. In the "City" sheets this column shows the percentage of sales in the city to the total sales in all cities. By comparing columns "A" and "B" it can be seen whether the sales in each city have reached the percentage of total sales which the market factor has shown should be obtained. (The market factor of the city is the percentage which that city should provide of the country's total sales.)

C. Pounds Sold.

In the "Line" sheets this information is found by dividing the sales (D) by the "average price per pound" of the grade. It is of value for comparative purposes. In the city sheets this is found by dividing (E) sales of each line by the "average price per pound" of the

line. This information is needed in determining the freight shown in column "I". This method is reasonably accurate and avoids an additional record of pounds along with the records of dollars of sales. It also t avoids the accumulation and recording of freight expenses. By following the method finally used, only the dollars of sales are accumulated by customers, and by lines, thus saving a great deal of time.

D. As stated in another section of this report, sales are compiled by the Sales Analysis Department, detailed by customers and by lines.

E. Average Price per Pound.

The average price per pound for the grade or the city. The average price per pound in the "Line" sheets is the standard selling price of the line. In the city sheets the average price per pound is determined by, first, dividing the dollars of sales for each line in the city by the standard price for that line; second, totaling both dollars and pounds of sales for the city; third, dividing the total dollars of sales by the pounds of sales to get the average price per pound for the city. The average price per pound is an important factor in that it indicates the class of papers sold in the city. As discussed, it is the result of varying combinations of volume and price.

F. Advertising Expense.

This is taken from the report of "Advertising Cost by Lines" and "By Cities" described in another part of this report. In the "Line" record the advertising cost by lines is averaged over a four year period to avoid the violent fluctuations from year to year occasioned by sample books and similar expensive advertising which is produced infrequently and which has a comparatively long life. Four years is approximately the life of this sampling advertising and is the shortest possible period to give any degree of uniformity, and yet not too long to measure current conditions. In the city sheets the actual costs of the advertising sent into the city, or charges against the city, during the period are used.

G. Field Expense - Days.

This column is used only for the "city" sheets. It shows the number of days spent by the salesman in the city. This information is used in determining the field expense in dollars as described in "H".

H. Field Expense - Dollars.

"Cities" - The actual salaries and expenses are prorated by cities according to the days spent in each city. For example, if salesman "A" covering territory 1 received a salary of $4,000 and had traveling expenses of $3,000, the total expense for the territory would be $7,000. If he spent two hundred days in the field actually contacting the trade, his expenses per day would be

$35. This, multiplied by the number of days in each city, would give the field selling expense for the city.

"Lines" - Strathmore products are divided into two classifications. One of these is handled by one group of salesmen for the entire country and the other classification is handled by another group of salesmen. It would be possible to compile field expense by lines from the information already determined by cities. It was found, however, that the value to be obtained from doing this was too small to warrant the cost, particularly since the difference between the closer methods and the method actually selected was very slight.

The total field expense was divided into two sections corresponding to two classifications of papers. The total for each section was then assessed evenly, by a percentage method, against sales of each line.

I. Freight.

"Cities" - The pounds sold (C) multiplied by the normal cost of shipping paper to the city. (This is not the actual freight rate to the city by the final cost including an allowance for tare.) Here again, the object sought in this system of Sales Cost Accounting has not been to get absolutely accurate figures, but rather to get information which would be reasonably close for control purposes but which would not cost an inordinate amount of money. The method used in allocating freight both by cities and by lines, as finally used, is not accurate to the last dollar. The only method of getting

it accurate, however, would be to cost each invoice and it can be readily seen that this would amount to a great deal of money. It was found that the method used was reasonably accurate. This conclusion is particularly to the point inasmuch as there are always enough variables to keep the final result from being precise. Again, the information as finally compiled gave the company sufficient and valuable information with which to control marketing procedure.

"Lines" - Certain special lines are made to order for particular customers. On these the freight rate is known and the freight cost can easily be calculated. One class of papers is sold by one division of the sales department to a separate territory classification. On this class the freight in total is also known and can be allocated according to the pounds in each line. The freight charges remaining are then allocated over the balance of the lines, according to the pounds shipped of each. Low-priced papers, under this method of freight allocation, receive a higher freight charge relative to sales than do the high-priced papers. It was found that there was but small variation in the average shipping destinations of the lines within each of the two classifications, and it was, therefore, unnecessary to go into more detail on this information. For example,

line "A" in Group A has practically as even a distribution of sales throughout the country as line "X".

J. Shipping.

"Cities" - The cost of shipping was allocated at a certain known rate on every pound of paper shipped. One class, as mentioned below, was charged at a smaller rate than the others, due to its lower shipping room rates and expense.

"Lines" - A small sub-division of papers is manufactured in rolls. This type of shipping container is less expensive to handle than the ordinary method of boxing. The cost of handling these particular papers in rolls is on a piece rate and is fixed. The cost of overhead is also easily determined.

A study was made to determine whether the variation in size of shipments between different grades and kinds of papers in the balance of the lines would warrant the expense of trying to allocate the shipping costs in fine detail. It was found that the differences were not particularly great and the cost of getting the expense accurately allocated was not warranted. The balance of the shipping charges were, therefore, allocated against sales according to the pounds shipped.

K. Sales Allowances.

These were transferred from the bookkeeping records - occurring quite infrequently.

L. Sales Discounts.

A standard percent of sales, as applied uniformly to all customers and all papers.

M. Cost of Goods Sold.

"Lines" - Information is collected by the Cost Department for each line for use in the financial statements. The Cost Department through its factory cost accounting system determines the cost of manufacturing each line and item sold. This is computed daily from the sales for each line and is totaled at the end of the four weeks' period for use in the operating statements. This is balanced each period and the difference (plus or minus) shown as a variation in the operating statements. "O" (Manufacturing Overhead) is deducted from this for both lines and cities.

"Cities" - This is found by calculating the cost of goods sold for each line in the city, according to the average percentage of cost of sales for the line. For example, it is found that for line "A" for the six months' period that cost of sales is 48% of sales (as explained in the previous paragraph). Therefore, to find the cost of sales for line "A" in city "C", the sales are multiplied by 48%. The results are then totaled for each city to get the total cost of sales for the city.

O. Manufacturing Overhead.

"Lines" - Manufacturing overhead includes investment charges (taxes, depreciation and insurance) and general manufacturing expense. Items to be included in manufacturing overhead were determined after a careful study of the expenses entering into the manufacturing of paper. It was decided that the expenses finally included were expenses which were practically fixed regardless of the degree of operation of the plant.

P. Distribution Overhead.

"Cities" - This includes administrative expense and other sales expense. It was estimated that certain portions of these expenses might be allocated according to the number of orders received. These portions included the sales correspondence expense, order department expense, stenographic expense, and one-half of the other administrative expense of a strictly administrative nature. In this section as in the preceding section the items included were determined after a careful study of company expenses.

"Lines" - A study was made of all papers by price levels and by types and it was found that one classification of papers had a much higher value per order than other papers. The other papers showed but very little variation in the dollar value of orders between lines of similar prices and between different price levels. There-

fore, in allocating the distribution overhead, the individual group having the higher order value was assessed a lower percentage based on the actual figures. These actual figures were obtained from the costs by cities, being the total for the particular territory responsible for this classification of papers. In the balance of the papers, where the variation was found to be very slight, the remaining order charges were assessed according to sales. The other section of distribution overhead was allocated evenly to all papers according to sales.

R. Other Additions and Deductions from Income.

Other additions and deductions from income are essentially not operating items. However, in order to arrive at a final net profit information which would show a division of the total company net profit by lines and by cities this "other additions and deductions" was allocated to lines and cities, according to sales. If these items had been important they would not have been included in the analysis, the final profit then being that before "other additions and deductions".

S. Total Overhead and Other Charges.

The total of columns "P", "Q" and "R".

T. Net Profit.

The difference between "O" and "S" is the net profit. The total of all individual items equals the net

profit shown in the financial statement of the company. In the case of a complicated corperate structure, the item of "other additions and deductions incomes" would be omitted and the final net profit shown would be the figure before these items.

CONDENSED REPORT OF PROFIT ANALYSIS BY LINES AND BY CITIES.

The information in the detailed profit analysis records by lines and cities is a complicated one. Considerable time is required to digest this information, and it is, therefore, not particularly well suited for executive use in its complete form. Condensed reports were established, as shown on the following page, to report the most important facts of the detail records:

1. Sales.
2. Profit Before Overhead - Dollars.
3. Profit Before Overhead - Percentage of Sales.
4. Net Profit - Dollars.
5. Net Profit - Percentage of Sales.

This condensed report is made in two sections.... one covering sales and profits by lines and the other section covering sales and profits by cities. This report gives executives in very compact form the final analysis of sales and profits by lines and periods, in a very convenient and concise form.

ANALYSIS OF PROFIT

LINE OR CITY	SALES	PROFIT BEFORE OVERHEAD CHARGES		NET PROFIT	
		$	% TO SALES	$	% TO SALES

CONCLUSION

This report has discussed the control of marketing through statistical methods. It has not intended to imply that all facts required in the control of marketing operations can be obtained through the mediums discussed. On the contrary, it is often necessary to go into the field to secure additional information. The control methods discussed do provide a necessary underlying system.

This report has discussed these control methods from the point of view of a particular business. Every business is different in some respect from other businesses and no one system can be laid down which will fit the needs of all. However, the fundamental principles underlying the control of marketing operations are alike in all firms. It may be necessary to change the details to fit the individual peculiarities of a business, but the objectives to be attained are alike in all, and many of the factors to be considered are also alike for all businesses.

This report is written not from an academic or theoretical point of view but rather from the point of view of a practical business man with definite problems to be solved. The recommendations may not in every case follow accepted theories but where they depart from such theories it is usually due to the expense of being too high for the

results obtained. In some cases theories which at first seemed practical proved impractical in meeting actual requirements.

This report has presented methods for controlling marketing in its many phases:

Merchandise.

Analysis of sales and trends in order to know which products are being sought by the public.

Market Determination.

Knowing the public demand for the merchandise, the next step is the analysis of the markets. The relative value of different markets must be known in order to properly divide territories, decide how much time each market should receive, or how frequently it should be visited, and how much advertising each market should receive.

Forecasting.

Modern business operates on a budget, knowing beforehand what it can expect in the way of profit. All factors in the determination of profit start with sales and some method of forecasting of sales must be used in order to accurately plan future operations.

Advertising Control.

What should be done in advertising a product? How should the advertising budget be determined and what

should be done to determine the effectiveness of advertising, and to control the advertising expenditures?

Control of Sales Activity.

What should be done to carry out the other side of the problem of telling the public about the product? This entails the routing of salesmen, control of their activity and expenses, and analysis of their productivity.

Sales Cost Accounting.

After all operations have been accomplished, what can be done to determine just what part each line or each customer occupied in the producing of the final profit or loss?

A manufacturer whose entire force consists only of himself, does not require complicated records to tell him what is happening. He knows from personal observation and personal judgment the facts he needs in the control of his business. A huge corporation on the other hand must have very detailed records, far more detailed than the system discussed in this report. At either extreme, however, the same ground must be covered and the same knowledge in one form or another be obtained in order to systematically and profitably conduct a business.

It is hoped that the discussion of these factors and the presentation of the system as finally adopted by one company will be helpful to business executives in giv-

ing them a clearer understanding of the range of control methods that can be used.

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